

TEST REPORT

of

FCC CFR Title 47 Part 15 Subpart C

Product: **LoRa transceiver Module**
Brand: **Fanstel**
Main Model: **LR68E**
Series Model: **LR68C**
FCC ID: **X8WLR68E**
Standard: **§15.247, Cat: DSS**
Reference: **ANSI C63.10: 2020**
KDB 558074 D01 v05r02
Applicant: **Fanstel Corporation, Taipei**
Address: **10F-10, No. 79, Sec. 1, Hsin Tai Wu Rd., Hsi-Chih, New Taipei City 221 Taiwan**

Test Performed by:



International Standards Laboratory Corp. LT Lab.

TEL: +886-3-263-8888 FAX: +886-3-263-8899

No. 120, Lane 180, Hsin Ho Rd., Lung-Tan Dist., Tao Yuan City 325, Taiwan

Report No.: **ISL-25LR0142FCLORA**

Issue Date : **October 22, 2025**



FCC Registration Number: 487532

Test results given in this report apply only to the specific sample(s) tested and are traceable to national or international standard through calibration of the equipment and evaluating measurement uncertainty herein. According to customer agreement, the laboratory issues test reports based on the regulations or standards specifications, the measurement uncertainty is not considered in conformity decision rules.

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VERIFICATION OF COMPLIANCE

Applicant: Fanstel Corporation, Taipei
Equipment Under Test: LoRa transceiver Module
Brand: Fanstel
Main Model: LR68E
Series Model: LR68C
Model Difference: Antenna Type
FCC ID: X8WLR68E
Date of Test: September 19, 2025 ~ October 22, 2025
Date of EUT Received: September 19, 2025

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
FCC Part 15.247	Complied

We hereby certify that:

All the tests in this report have been performed and recorded in accordance with the standards de-scribed above and performed by an independent electromagnetic compatibility consultant, International Standards Laboratory Corp.

The test results contained in this report accurately represent the measurements of the characteristics and the energy generated by sample equipment under test at the time of the test. The sample equipment tested as described in this report is in compliance with the limits of above standards.

Prepared By: Gigi Yeh

Test By: Barry Lee
Barry Lee

Approved By: Jerry Liu
Jerry Liu / Manager

Version

Version No.	Date	Description
00	October 22, 2025	Initial creation of document

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1. Description of Equipment under Test (EUT)

General Information	
Product Name:	LoRa transceiver Module
Brand Name:	Fanstel
Model Name:	LR68E, LR68C
Model Difference:	Antenna Type
Power Supply:	5V USB
Information	
Modular:	LLCC68
Frequency Range:	902~928(MHz)
Max Output Power:	21.626dBm
Channel number:	50
Modulation type:	Lora
Product HW Version:	LR68E-V0
Product SW Version:	LR68E-V0
Product FW Version:	LoraHopping250811
Test SW Version:	Semtech 191017
RF power setting:	SF = 7, BW = 125kHz, P=22, PL = 8, CR = 4/5

	Antenna Type	Brand	Model	Peak Gain(dBi)	Frequency Range (MHz)	Connector Type
1	Directional	Fanstel	ANT088	5.82	902-928	U.FHL
2	Dipole	Fanstel	ANT025	0.99	902-928	U.FHL
3	Chip	Fanstel	WAN031003F0391SM03	1.32	915	N/A
4	Dipole	AFC	ANT042	4.2	915	U.FHL

Channel list	Frequency	Channel list	Frequency
1	902.5	26	915
2	903	27	915.5
3	903.5	28	916
4	904	29	916.5
5	904.5	30	917
6	905	31	917.5
7	905.5	32	918
8	906	33	918.5
9	906.5	34	919
10	907	35	919.5
11	907.5	36	920
12	908	37	920.5
13	908.5	38	921
14	909	39	921.5
15	909.5	40	922
16	910	41	922.5
17	910.5	42	923
18	911	43	923.5
19	911.5	44	924
20	912	45	924.5
21	912.5	46	925
22	913	47	925.5
23	913.5	48	926
24	914	49	926.5
25	914.5	50	927

2. Description of Test Modes

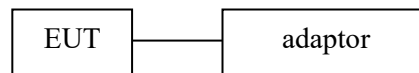
Test program used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

Channel low (2402MHz), mid (2441MHz), (2480MHz) with each modulation were chosen for full testing.

All modes have been pre-scanned, and only the cast of the worst is presented in the report.

2.1 Configuration of Tested System

Configuration of Tested System (Fixed channel)



Equipment Used in Tested System

Item	Equipment	Brand	Model	S/N	Data Cable	Power Cord
1	Adaptor	SG-0502000AU	Guangdong Sangu	NA	NA	Non-shielded

3. Standards, reference documents and applicable test methods

The EUT According to the Specifications, it must comply with the requirements of the following standards:

1. FCC Title 47 CFR part 15 - Subpart C – §15.247 Operation within the bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz.
2. FCC Title 47 CFR part 15 - Subpart C – §15.207 Conducted limits.
3. FCC Title 47 CFR part 15 - Subpart C – §15.209 Radiated emission limits; general requirements.
4. FCC OET KDB 558074 D01 v05r02 - Guidance for compliance measurements on digital transmission system, frequency hopping spread spectrum system, and hybrid system devices operating under section 15.247 of the FCC rules
5. FCC OET KDB 662911 D01 v02r01 - Emissions Testing of Transmitters with Multiple Outputs in the Same Band
6. ANSI C63.10-2020 - American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

4. Summary of Test Results

FCC Rules	Description Of Test	Result
§15.207	AC Power Line Conducted Emission	Compliant
§15.247(b)(1)	Peak Output Power/ EIRP	Compliant
§15.247(a)(1)	20dB Bandwidth	Compliant
§15.247(d)	100 kHz Bandwidth of Frequency Band Edges	Compliant
§15.247(d)	Spurious Emission	Compliant
§15.247(a)(1)	Frequency Separation	Compliant
§15.247(a)(1)(iii)/	Number of Hopping Frequency	Compliant
§15.247(a)(1)(ii)	Time of Occupancy	Compliant

Test Plan

Applicable standard		FCC			
Test Configuration		Config 1	Config 2	Config 3	Config 4
		ANT088	ANT025	WAN031003F0391SM03	Ant042
Operation mode		Master Mode	Master Mode	Master Mode	Master Mode
No.	Description				
1	Radiated emission(30M~1GHz) (above 1GHz)	Measured	Measured	Measured	Measured
2	Conducted emission (DC Power)	N/A	N/A	N/A	N/A
3	Conducted emission (AC Power)	N/A	N/A	N/A	N/A

5. AC Line Conducted Emission Test

5.1 Standard Applicable

According to §15.207, frequency range within 150kHz to 30MHz shall not exceed the Limit table as below.

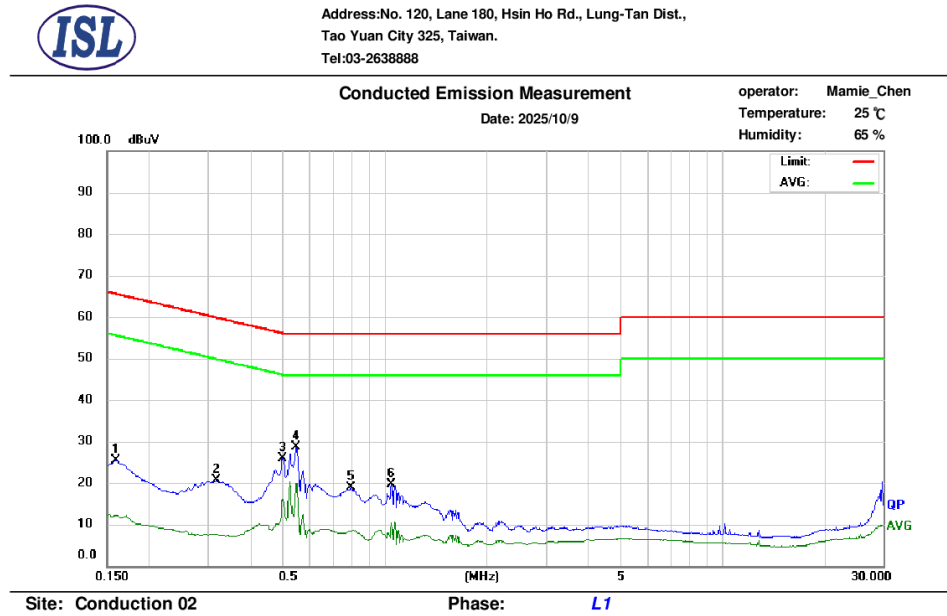
Frequency range MHz	Limits dB(μV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50
Note		
1.The lower limit shall apply at the transition frequencies		
2.The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.		

5.2 Measurement Procedure

1. The EUT was placed on a table which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured were complete.
4. Both 120V & 240V have been verified, and 120V/60Hz was defined as the worst-case and record in the report.

5.3 Measurement Result

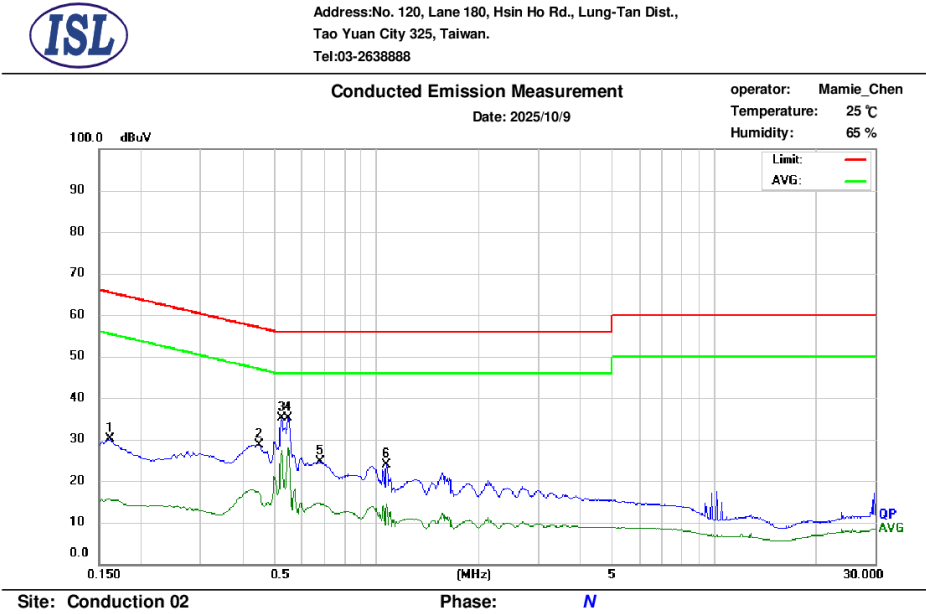
- Line



No.	Frequency (MHz)	QP_R (dBuV)	AVG_R (dBuV)	Correct Factor (dB)	QP Emission (dBuV)	QP Limit (dBuV)	QP Margin (dB)	AVG Emission (dBuV)	AVG Limit (dBuV)	AVG Margin (dB)
1	0.159	15.69	2.40	9.68	25.37	65.52	-40.15	12.08	55.52	-43.44
2	0.317	10.91	-2.14	9.68	20.59	59.80	-39.21	7.54	49.80	-42.26
3	0.499	16.25	6.50	9.69	25.94	56.02	-30.08	16.19	46.02	-29.83
4*	0.546	18.96	10.19	9.69	28.65	56.00	-27.35	19.88	46.00	-26.12
5	0.793	9.05	-1.27	9.70	18.75	56.00	-37.25	8.43	46.00	-37.57
6	1.046	9.82	0.62	9.71	19.53	56.00	-36.47	10.33	46.00	-35.67

Note:
Margin = QP/AVG Emission - Limit
QP/AVG Emission = QP_R/AVG_R + Correct Factor
Correct Factor = LISN Loss + Cable Loss
The frequency spectrum graph is for final peak graph, and the attached table is for QP/AVG test result.
If peak data can pass, it will be shown in “QP/AVG Correct” column, if not, QP/AVG data will instead.

- Neutral



No.	Frequency (MHz)	QP_R (dBuV)	AVG_R (dBuV)	Correct Factor (dB)	QP Emission (dBuV)	QP Limit (dBuV)	QP Margin (dB)	AVG Emission (dBuV)	AVG Limit (dBuV)	AVG Margin (dB)
1	0.161	20.33	6.00	9.69	30.02	65.40	-35.38	15.69	55.40	-39.71
2	0.447	19.04	7.49	9.69	28.73	56.93	-28.20	17.18	46.93	-29.75
3	0.523	25.52	17.77	9.70	35.22	56.00	-20.78	27.47	46.00	-18.53
4*	0.546	25.37	18.14	9.70	35.07	56.00	-20.93	27.84	46.00	-18.16
5	0.676	14.81	4.81	9.70	24.51	56.00	-31.49	14.51	46.00	-31.49
6	1.070	14.12	4.75	9.72	23.84	56.00	-32.16	14.47	46.00	-31.53

Note:
Margin = QP/AVG Emission - Limit
QP/AVG Emission = QP_R/AVG_R + Correct Factor
Correct Factor = LISN Loss + Cable Loss
The frequency spectrum graph is for final peak graph, and the attached table is for QP/AVG test result.
If peak data can pass, it will be shown in “QP/AVG Correct” column, if not, QP/AVG data will instead.

6. Peak Output Power Measurement

6.1 Standard Applicable

According to §15.247(b)(1), For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 hopping channels, and all frequency hopping systems in the 5725-5850MHz band: 1Watt. For all other frequency hopping systems in the 2400 – 2483.5MHz band: 0.125 Watts.

6.2 Measurement Procedure

1. Place the EUT on the table and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the power meter
3. Record the max. reading.
4. Repeat above procedures until all frequency measured are complete.

6.3 Measurement Result

Lora Mode

Frequency (MHz)	Peak Reading Power (dBm)	Limit (dBm)
Low	21.626	30
Mid	21.383	30
High	21.155	30

7. Radiated Spurious Emission Test

7.1 Standard Applicable

According to §15.247(d), all other emissions outside these bands shall not exceed the general radiated emission limits specified in §15.209(a). And according to §15.33(a)(1), for an intentional radiator operates below 10GHz, the frequency range of measurements: to the tenth harmonic of the highest fundamental frequency or to 40GHz, whichever is lower.

7.2 Measurement Procedure

1. According KDB 414788 section 2, Either OATS or chamber for radiated emission below 30MHz, the test was done at 966 chamber, the test site was evaluated with OATS and the Chamber has test signals level greater than OATS's.
2. The EUT was placed on a turn table which is 0.8m/1.5m above ground plane in 966 chamber.
3. The turn table shall rotate 360 degrees to determine the position of maximum emission level.
4. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emissions.
5. When measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made "while keeping the antenna in the 'cone of radiation' from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response." is still within the 3dB illumination BW of the measurement antenna.
6. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
7. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
8. Repeat above procedures until all frequency measured were complete

Test receiver setting	: Blew 1GHz
Detector	: Average (9kHz – 90kHz, 110kHz – 90kHz), Quasi-Peak
Bandwidth	: 200Hz, 120kHz
Test spectrum setting	: Above 1GHz
Peak	: RBW=1MHz, VBW $\geq$ 3*RBW, Sweep=auto
Average	: RBW=1MHz, VBW $\geq$ 1/T _{on} , Sweep=auto

7.3 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CL - AG$$

Where	FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
	RA = Reading Amplitude	AG = Amplifier Gain
	AF = Antenna Factor	

Remark:

<1GHz

1. No further spurious emissions detected from the lowest internal frequency and 30MHz.
2. Measuring frequencies from the lowest internal frequency to the 1GHz.
3. Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9-90kHz/110-490kHz using PK/AV and other Frequency Band using PK/QP
4. Measurement result within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

>1GHz

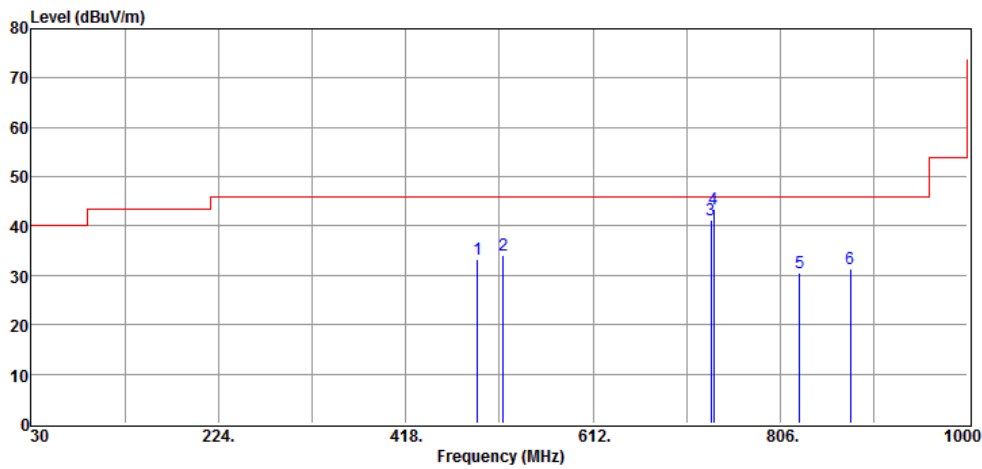
- 5 Measuring frequencies from the lowest internal frequency to the 10th of fundamental frequency
- 6 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 7 Measurement of data within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

7.4 Measurement Result

7.4.1 Radiated Spurious Emission Measurement Result (below 1GHz)

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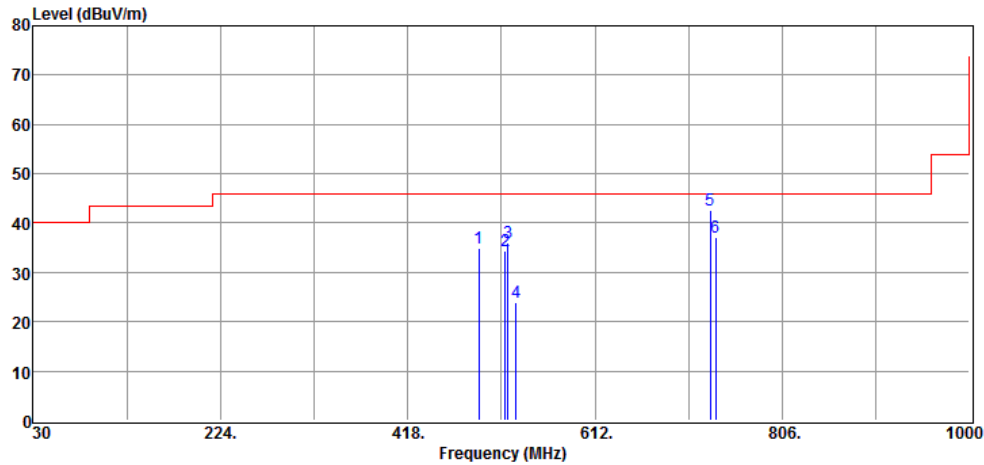
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx Low ch 088 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	492.69	39.14	-5.84	33.30	46.00	-12.70	Peak	VERTICAL
2	518.88	39.20	-5.20	34.00	46.00	-12.00	Peak	VERTICAL
3	734.22	42.34	-1.20	41.14	46.00	-4.86	Peak	VERTICAL
4	737.13	44.63	-1.10	43.53	46.00	-2.47	Peak	VERTICAL
5	826.37	30.61	-0.01	30.60	46.00	-15.40	Peak	VERTICAL
6	878.75	30.97	0.40	31.37	46.00	-14.63	Peak	VERTICAL

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Date: 2025-10-03

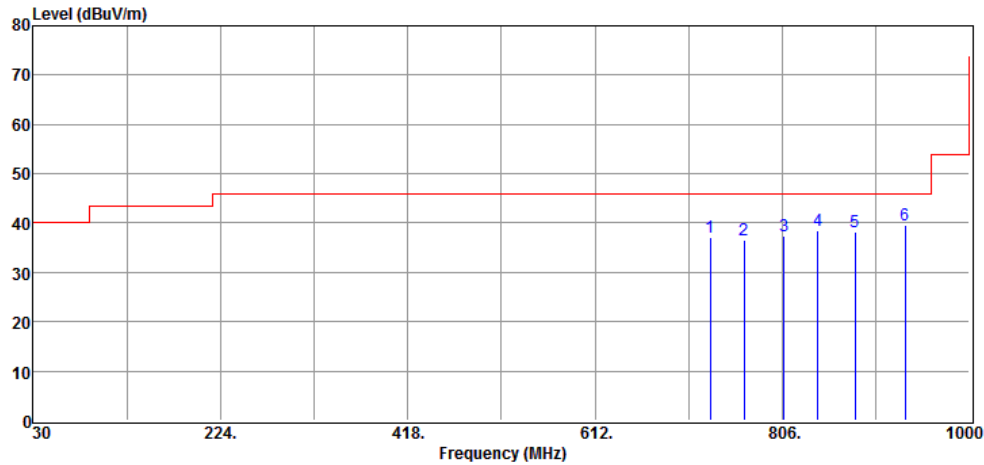
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx Low ch 088 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	491.72	40.66	-5.86	34.80	46.00	-11.20	Peak	HORIZONTAL
2	518.88	39.67	-5.20	34.47	46.00	-11.53	Peak	HORIZONTAL
3	521.79	41.29	-5.19	36.10	46.00	-9.90	Peak	HORIZONTAL
4	530.52	28.97	-5.07	23.90	46.00	-22.10	Peak	HORIZONTAL
5	731.31	43.77	-1.20	42.57	46.00	-3.43	Peak	HORIZONTAL
6	737.13	38.10	-1.10	37.00	46.00	-9.00	Peak	HORIZONTAL

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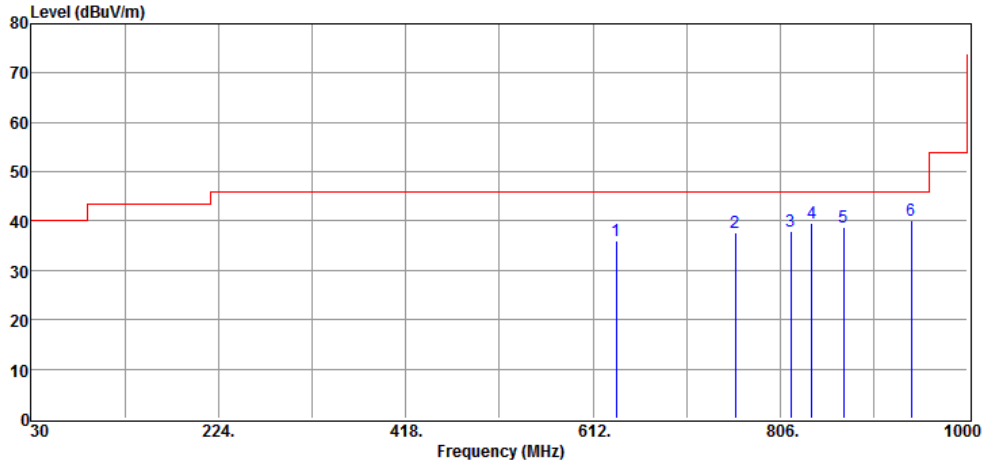
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx Mid ch 088 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	731.31	38.41	-1.20	37.21	46.00	-8.79	Peak	VERTICAL
2	766.23	36.81	-0.25	36.56	46.00	-9.44	Peak	VERTICAL
3	807.94	37.58	-0.14	37.44	46.00	-8.56	Peak	VERTICAL
4	842.86	38.14	0.33	38.47	46.00	-7.53	Peak	VERTICAL
5	881.66	37.76	0.43	38.19	46.00	-7.81	Peak	VERTICAL
6	933.07	37.95	1.55	39.50	46.00	-6.50	Peak	VERTICAL

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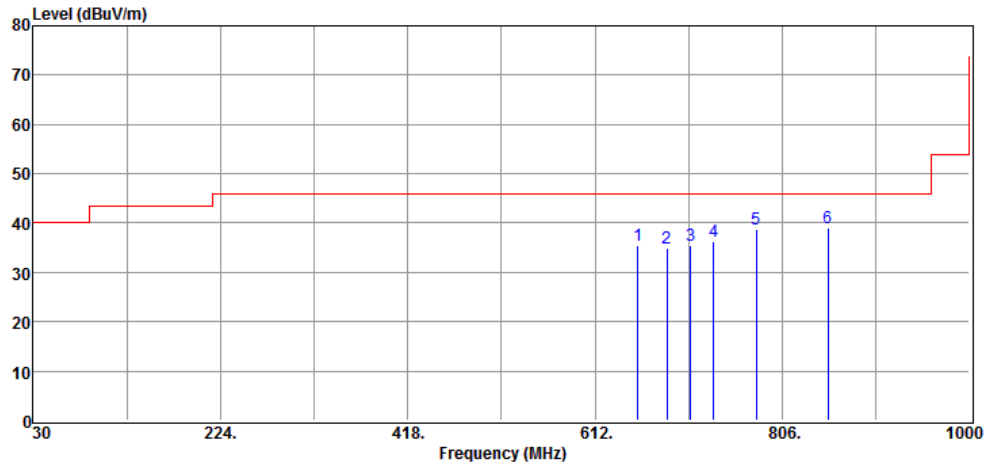
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx Mid ch 088 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	636.25	38.55	-2.65	35.90	46.00	-10.10	Peak	HORIZONTAL
2	759.44	38.14	-0.36	37.78	46.00	-8.22	Peak	HORIZONTAL
3	816.67	37.99	-0.06	37.93	46.00	-8.07	Peak	HORIZONTAL
4	838.98	39.26	0.28	39.54	46.00	-6.46	Peak	HORIZONTAL
5	871.96	38.32	0.32	38.64	46.00	-7.36	Peak	HORIZONTAL
6	941.80	38.54	1.68	40.22	46.00	-5.78	Peak	HORIZONTAL

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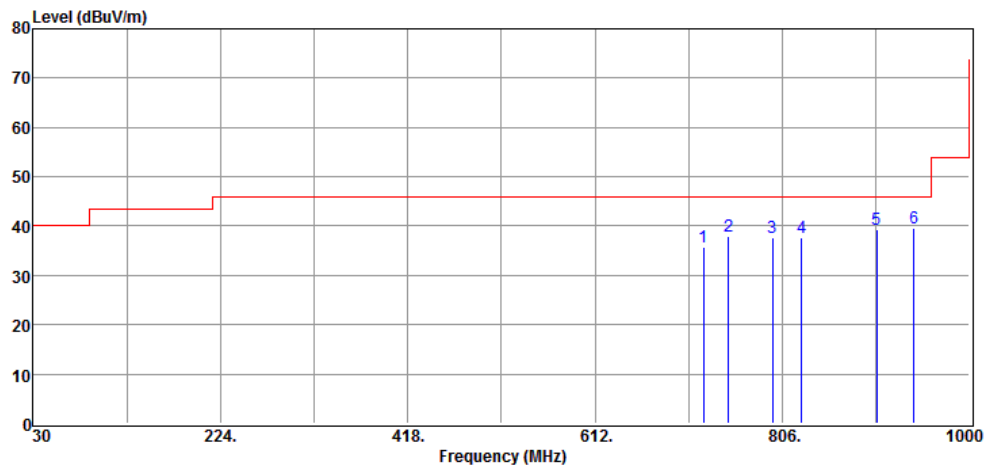
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx High ch 088 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	656.62	37.78	-2.36	35.42	46.00	-10.58	Peak	VERTICAL
2	686.69	36.92	-2.02	34.90	46.00	-11.10	Peak	VERTICAL
3	710.94	37.19	-1.65	35.54	46.00	-10.46	Peak	VERTICAL
4	735.19	37.49	-1.19	36.30	46.00	-9.70	Peak	VERTICAL
5	778.84	38.94	-0.31	38.63	46.00	-7.37	Peak	VERTICAL
6	853.53	38.57	0.51	39.08	46.00	-6.92	Peak	VERTICAL

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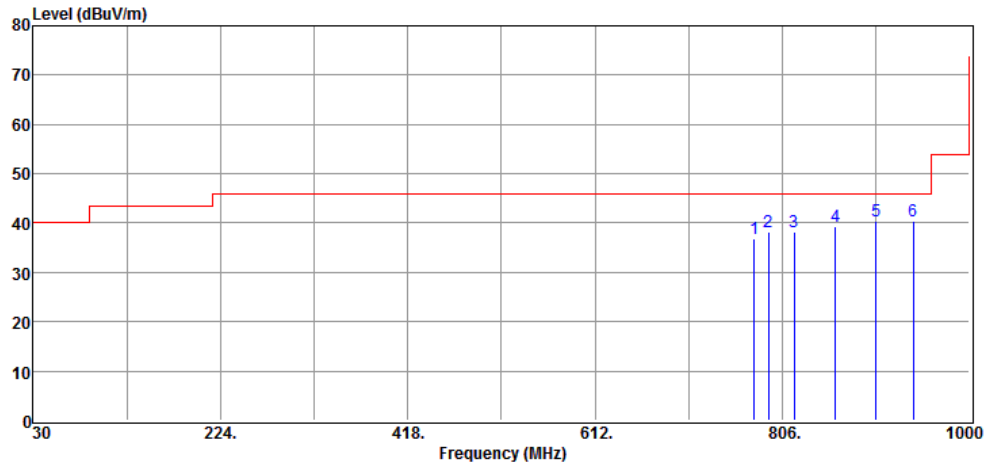
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx High ch 088 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	724.52	37.05	-1.35	35.70	46.00	-10.30	Peak	HORIZONTAL
2	750.71	38.48	-0.64	37.84	46.00	-8.16	Peak	HORIZONTAL
3	796.30	37.93	-0.27	37.66	46.00	-8.34	Peak	HORIZONTAL
4	826.37	37.72	-0.01	37.71	46.00	-8.29	Peak	HORIZONTAL
5	903.97	38.45	0.92	39.37	46.00	-6.63	Peak	HORIZONTAL
6	942.77	37.73	1.72	39.45	46.00	-6.55	Peak	HORIZONTAL

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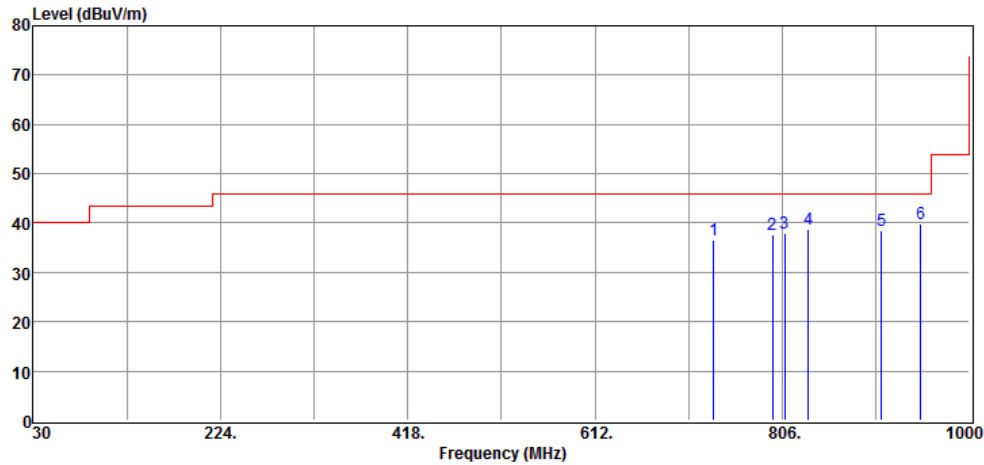
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx Low ch 025 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	776.90	37.28	-0.31	36.97	46.00	-9.03	Peak	VERTICAL
2	791.45	38.38	-0.28	38.10	46.00	-7.90	Peak	VERTICAL
3	818.61	38.19	0.01	38.20	46.00	-7.80	Peak	VERTICAL
4	861.29	38.87	0.43	39.30	46.00	-6.70	Peak	VERTICAL
5	903.00	39.48	0.90	40.38	46.00	-5.62	Peak	VERTICAL
6	941.80	38.73	1.68	40.41	46.00	-5.59	Peak	VERTICAL

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Date: 2025-10-03

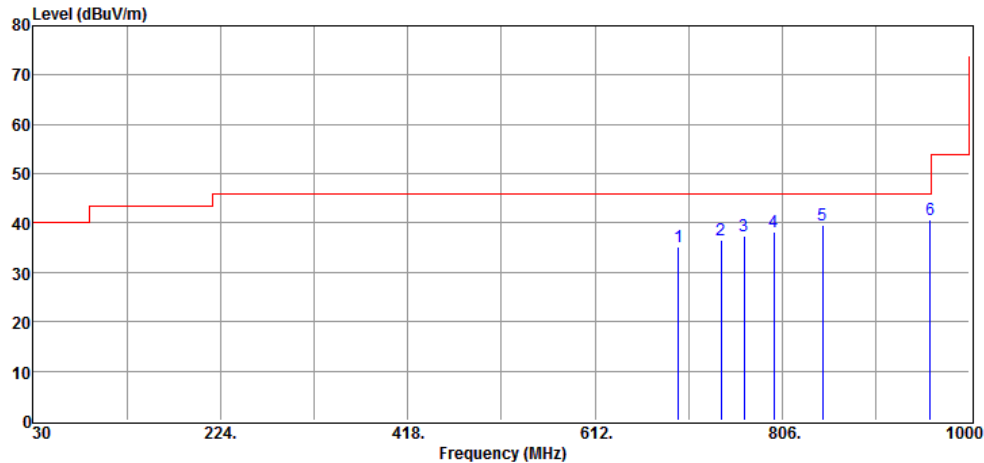
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx Low ch 025 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	735.19	37.86	-1.19	36.67	46.00	-9.33	Peak	HORIZONTAL
2	796.30	37.96	-0.27	37.69	46.00	-8.31	Peak	HORIZONTAL
3	808.91	37.97	-0.14	37.83	46.00	-8.17	Peak	HORIZONTAL
4	833.16	38.70	0.07	38.77	46.00	-7.23	Peak	HORIZONTAL
5	908.82	37.46	0.95	38.41	46.00	-7.59	Peak	HORIZONTAL
6	949.56	38.14	1.82	39.96	46.00	-6.04	Peak	HORIZONTAL

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Date: 2025-10-03

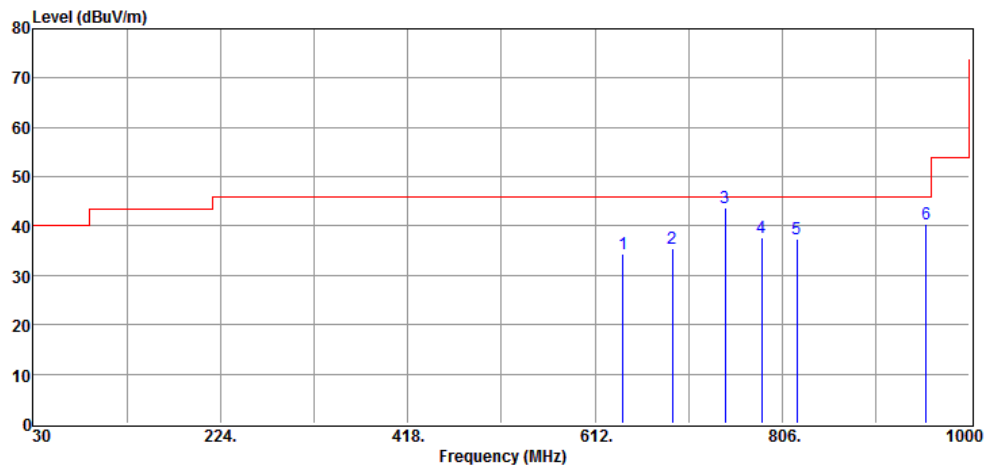
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx Mid ch 025 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	698.33	37.00	-1.81	35.19	46.00	-10.81	Peak	VERTICAL
2	742.95	37.40	-0.86	36.54	46.00	-9.46	Peak	VERTICAL
3	766.23	37.53	-0.25	37.28	46.00	-8.72	Peak	VERTICAL
4	797.27	38.59	-0.27	38.32	46.00	-7.68	Peak	VERTICAL
5	847.71	39.13	0.39	39.52	46.00	-6.48	Peak	VERTICAL
6	959.26	38.76	1.85	40.61	46.00	-5.39	Peak	VERTICAL

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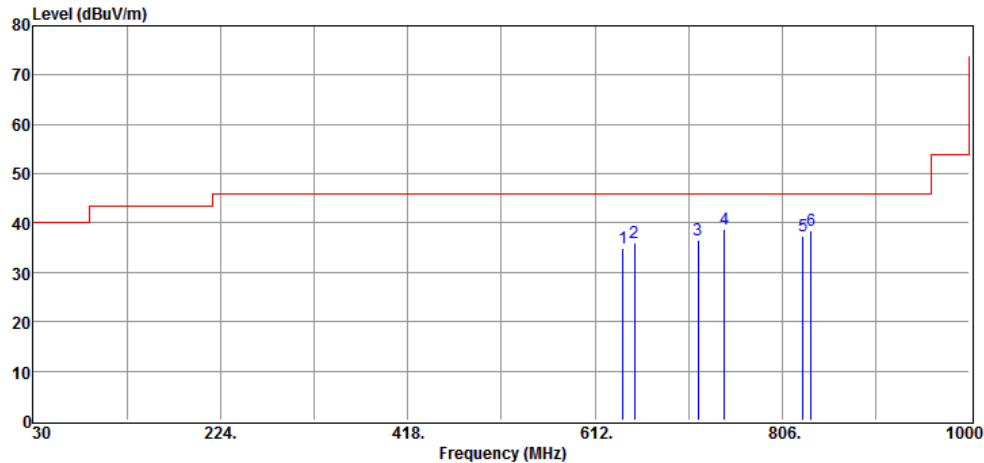
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx Mid ch 025 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	641.10	36.90	-2.53	34.37	46.00	-11.63	Peak	HORIZONTAL
2	692.51	37.53	-1.95	35.58	46.00	-10.42	Peak	HORIZONTAL
3	746.83	44.47	-0.73	43.74	46.00	-2.26	Peak	HORIZONTAL
4	784.66	37.99	-0.29	37.70	46.00	-8.30	Peak	HORIZONTAL
5	821.52	37.46	0.05	37.51	46.00	-8.49	Peak	HORIZONTAL
6	955.38	38.43	1.92	40.35	46.00	-5.65	Peak	HORIZONTAL

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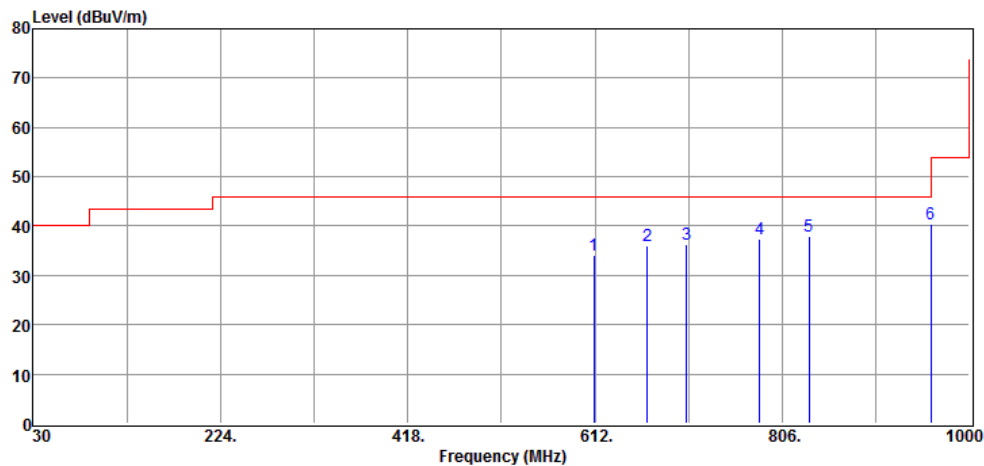
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx High ch 025 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	641.10	37.34	-2.53	34.81	46.00	-11.19	Peak	VERTICAL
2	652.74	38.43	-2.37	36.06	46.00	-9.94	Peak	VERTICAL
3	718.70	38.30	-1.63	36.67	46.00	-9.33	Peak	VERTICAL
4	745.86	39.59	-0.75	38.84	46.00	-7.16	Peak	VERTICAL
5	827.34	37.43	-0.01	37.42	46.00	-8.58	Peak	VERTICAL
6	836.07	38.23	0.15	38.38	46.00	-7.62	Peak	VERTICAL

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Date: 2025-10-03

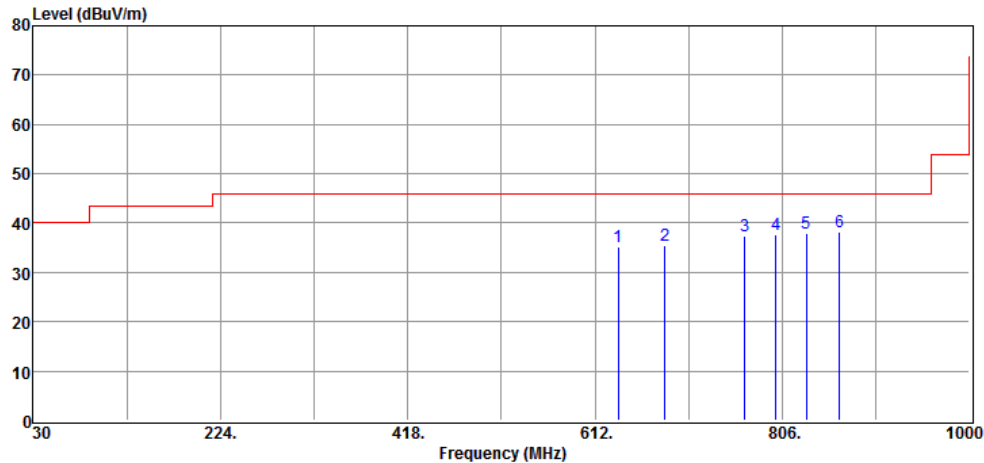
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx High ch 025 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	611.03	37.06	-3.10	33.96	46.00	-12.04	Peak	HORIZONTAL
2	666.32	38.24	-2.31	35.93	46.00	-10.07	Peak	HORIZONTAL
3	707.06	37.91	-1.72	36.19	46.00	-9.81	Peak	HORIZONTAL
4	782.72	37.67	-0.30	37.37	46.00	-8.63	Peak	HORIZONTAL
5	834.13	37.79	0.09	37.88	46.00	-8.12	Peak	HORIZONTAL
6	960.23	38.61	1.84	40.45	54.00	-13.55	Peak	HORIZONTAL

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Date: 2025-10-03

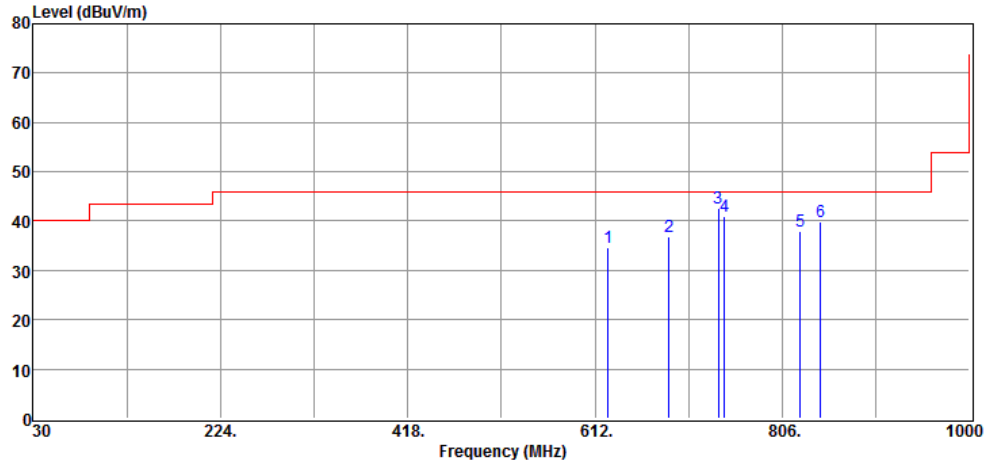
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx Low ch chip Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	636.25	37.77	-2.65	35.12	46.00	-10.88	Peak	VERTICAL
2	684.75	37.54	-2.02	35.52	46.00	-10.48	Peak	VERTICAL
3	767.20	37.64	-0.27	37.37	46.00	-8.63	Peak	VERTICAL
4	799.21	37.79	-0.26	37.53	46.00	-8.47	Peak	VERTICAL
5	831.22	37.80	0.02	37.82	46.00	-8.18	Peak	VERTICAL
6	865.17	37.88	0.37	38.25	46.00	-7.75	Peak	VERTICAL

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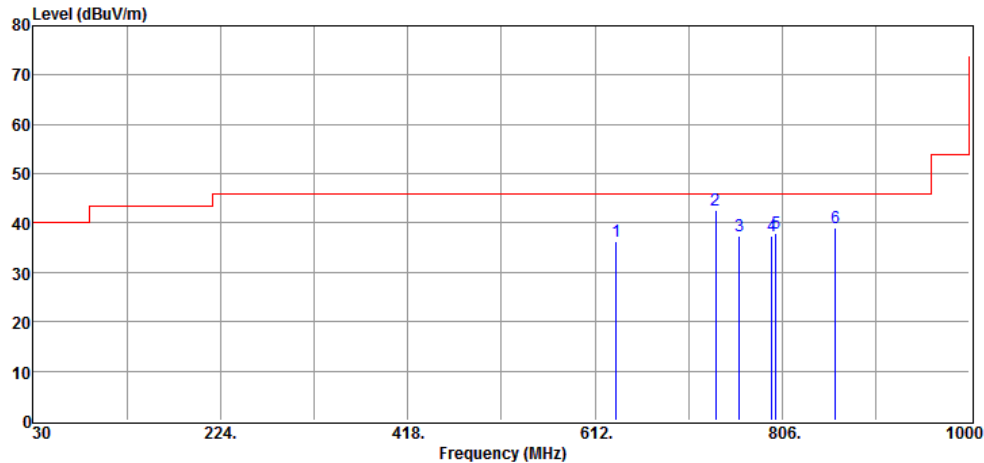
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx Low ch chip Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	625.58	37.56	-2.79	34.77	46.00	-11.23	Peak	HORIZONTAL
2	688.63	38.81	-2.02	36.79	46.00	-9.21	Peak	HORIZONTAL
3	740.04	43.56	-0.98	42.58	46.00	-3.42	Peak	HORIZONTAL
4	745.86	41.67	-0.75	40.92	46.00	-5.08	Peak	HORIZONTAL
5	824.43	38.03	0.00	38.03	46.00	-7.97	Peak	HORIZONTAL
6	845.77	39.47	0.35	39.82	46.00	-6.18	Peak	HORIZONTAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
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Date: 2025-10-03

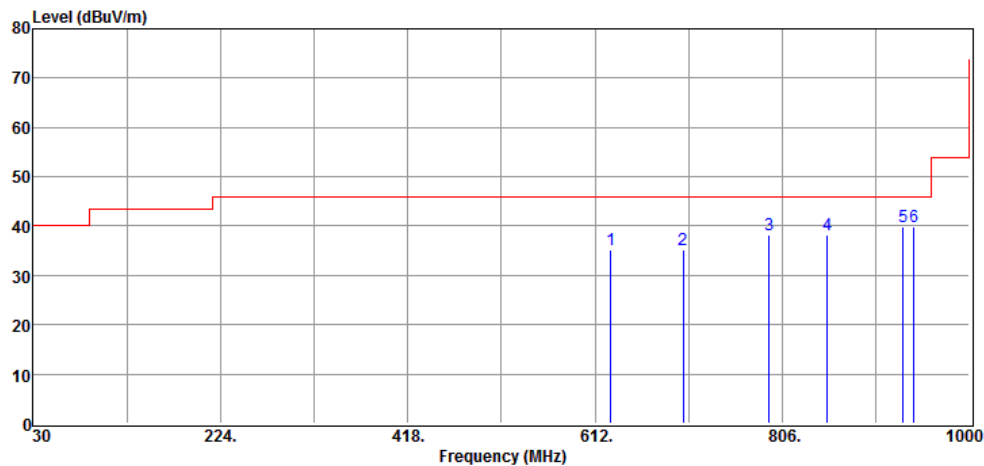
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx Mid ch chip Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	634.31	39.06	-2.68	36.38	46.00	-9.62	Peak	VERTICAL
2	737.13	43.64	-1.10	42.54	46.00	-3.46	Peak	VERTICAL
3	761.38	37.80	-0.32	37.48	46.00	-8.52	Peak	VERTICAL
4	795.33	37.68	-0.27	37.41	46.00	-8.59	Peak	VERTICAL
5	799.21	38.14	-0.26	37.88	46.00	-8.12	Peak	VERTICAL
6	861.29	38.49	0.43	38.92	46.00	-7.08	Peak	VERTICAL

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Date: 2025-10-03

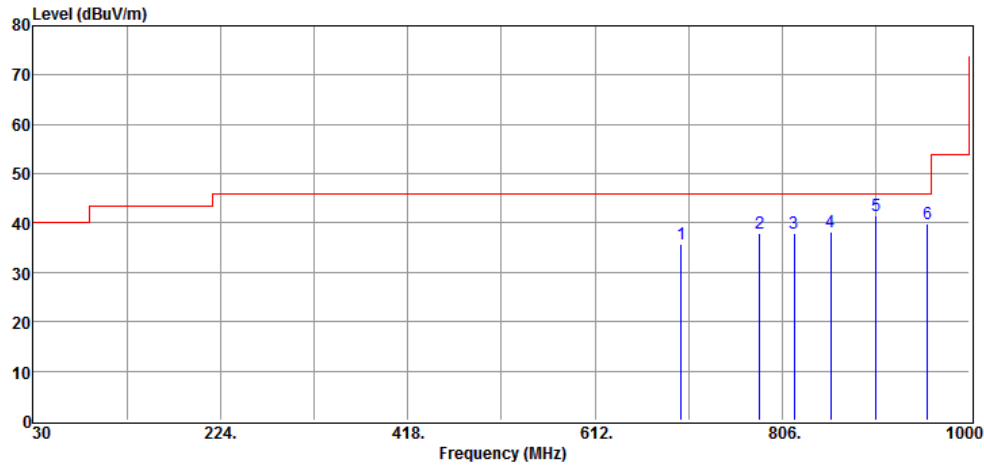
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx Mid ch chip Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	628.49	37.86	-2.79	35.07	46.00	-10.93	Peak	HORIZONTAL
2	703.18	37.09	-1.77	35.32	46.00	-10.68	Peak	HORIZONTAL
3	792.42	38.40	-0.28	38.12	46.00	-7.88	Peak	HORIZONTAL
4	852.56	37.66	0.49	38.15	46.00	-7.85	Peak	HORIZONTAL
5	931.13	38.29	1.51	39.80	46.00	-6.20	Peak	HORIZONTAL
6	942.77	38.15	1.72	39.87	46.00	-6.13	Peak	HORIZONTAL

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Date: 2025-10-03

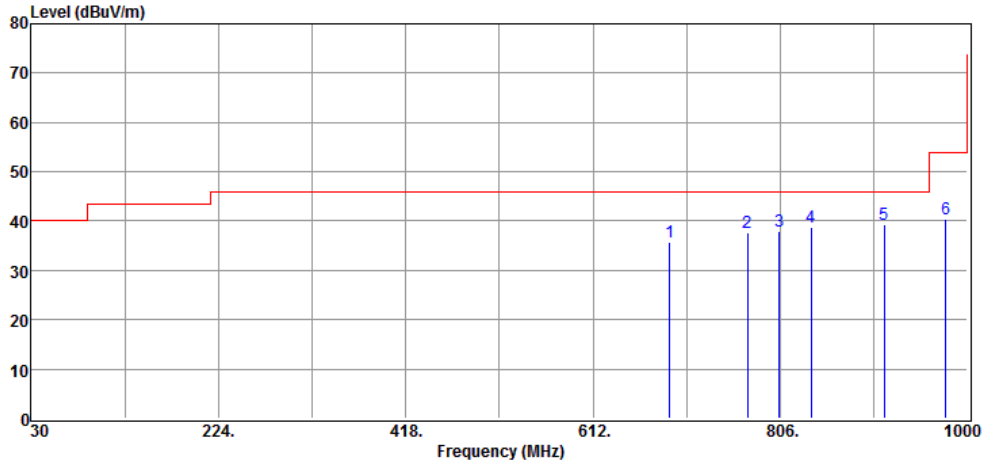
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx High ch chip Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	701.24	37.53	-1.78	35.75	46.00	-10.25	Peak	VERTICAL
2	782.72	38.24	-0.30	37.94	46.00	-8.06	Peak	VERTICAL
3	818.61	37.94	0.01	37.95	46.00	-8.05	Peak	VERTICAL
4	856.44	37.69	0.52	38.21	46.00	-7.79	Peak	VERTICAL
5	903.00	40.71	0.90	41.61	46.00	-4.39	Peak	VERTICAL
6	956.35	37.97	1.90	39.87	46.00	-6.13	Peak	VERTICAL

International Standard Laboratory Corp.
Company Address:No.120,Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-03

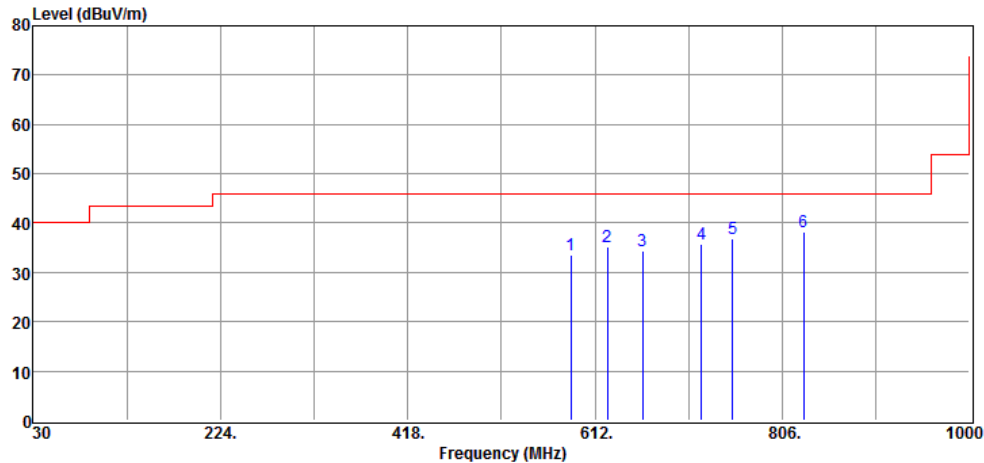
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx High ch chip Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	691.54	37.71	-1.97	35.74	46.00	-10.26	Peak	HORIZONTAL
2	772.05	37.95	-0.32	37.63	46.00	-8.37	Peak	HORIZONTAL
3	805.03	38.09	-0.15	37.94	46.00	-8.06	Peak	HORIZONTAL
4	838.01	38.54	0.24	38.78	46.00	-7.22	Peak	HORIZONTAL
5	913.67	38.23	1.11	39.34	46.00	-6.66	Peak	HORIZONTAL
6	977.69	38.77	1.68	40.45	54.00	-13.55	Peak	HORIZONTAL

International Standard Laboratory Corp.
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Date: 2025-10-03

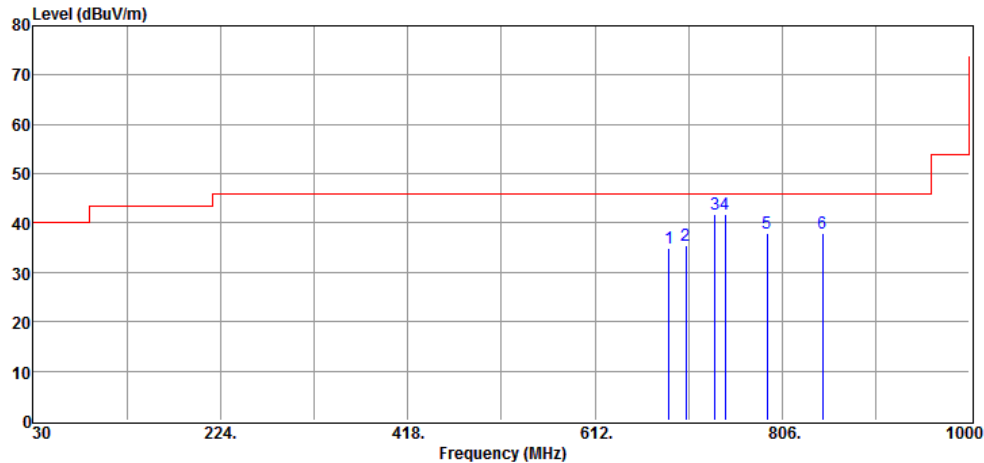
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx Low ch 040 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	586.78	37.30	-3.77	33.53	46.00	-12.47	Peak	VERTICAL
2	624.61	37.86	-2.80	35.06	46.00	-10.94	Peak	VERTICAL
3	661.47	36.81	-2.43	34.38	46.00	-11.62	Peak	VERTICAL
4	722.58	37.17	-1.48	35.69	46.00	-10.31	Peak	VERTICAL
5	754.59	37.44	-0.48	36.96	46.00	-9.04	Peak	VERTICAL
6	828.31	38.26	-0.01	38.25	46.00	-7.75	Peak	VERTICAL

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Date: 2025-10-03

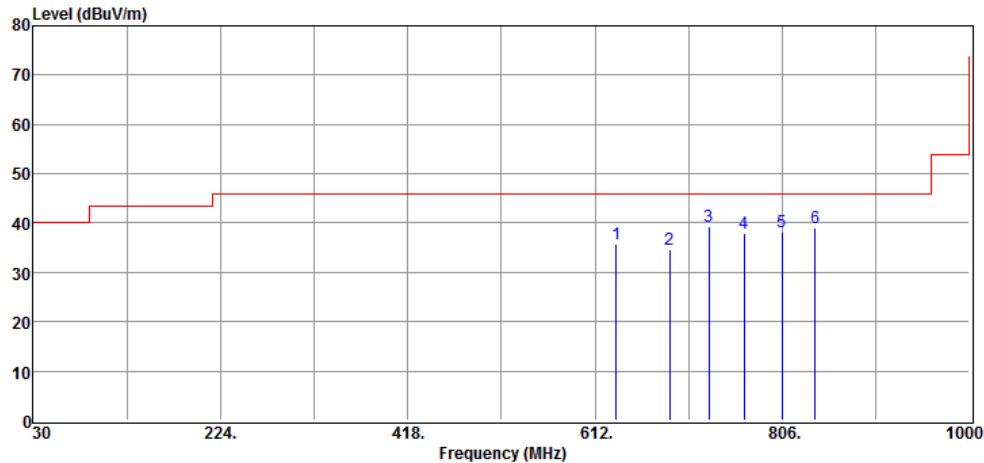
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx Low ch 040 Tested by : Barry Lee



No	Freq MHz	Reading dBUV	Factor dB/m	Level dBUV/m	Limit dBUV/m	Margin dB	Remark	Pol V/H
1	688.63	36.84	-2.02	34.82	46.00	-11.18	Peak	HORIZONTAL
2	706.09	37.33	-1.75	35.58	46.00	-10.42	Peak	HORIZONTAL
3	736.16	42.87	-1.14	41.73	46.00	-4.27	Peak	HORIZONTAL
4	746.83	42.65	-0.73	41.92	46.00	-4.08	Peak	HORIZONTAL
5	790.48	38.18	-0.28	37.90	46.00	-8.10	Peak	HORIZONTAL
6	847.71	37.52	0.39	37.91	46.00	-8.09	Peak	HORIZONTAL

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Date: 2025-10-03

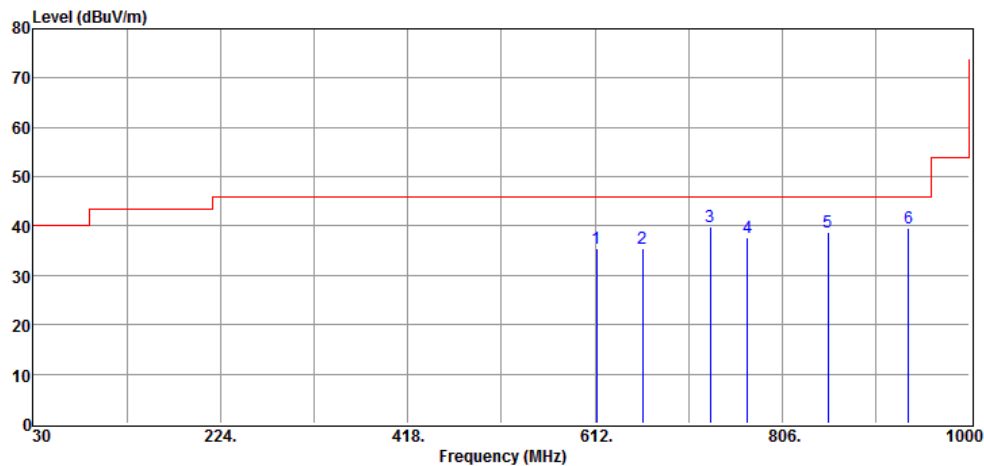
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx Mid ch 040 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	634.31	38.28	-2.68	35.60	46.00	-10.40	Peak	VERTICAL
2	689.60	36.77	-2.01	34.76	46.00	-11.24	Peak	VERTICAL
3	730.34	40.61	-1.21	39.40	46.00	-6.60	Peak	VERTICAL
4	766.23	38.13	-0.25	37.88	46.00	-8.12	Peak	VERTICAL
5	806.00	38.44	-0.15	38.29	46.00	-7.71	Peak	VERTICAL
6	839.95	38.77	0.32	39.09	46.00	-6.91	Peak	VERTICAL

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Company Address: No. 120, Lane 180, Hsin Ho Rd.
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Date: 2025-10-03

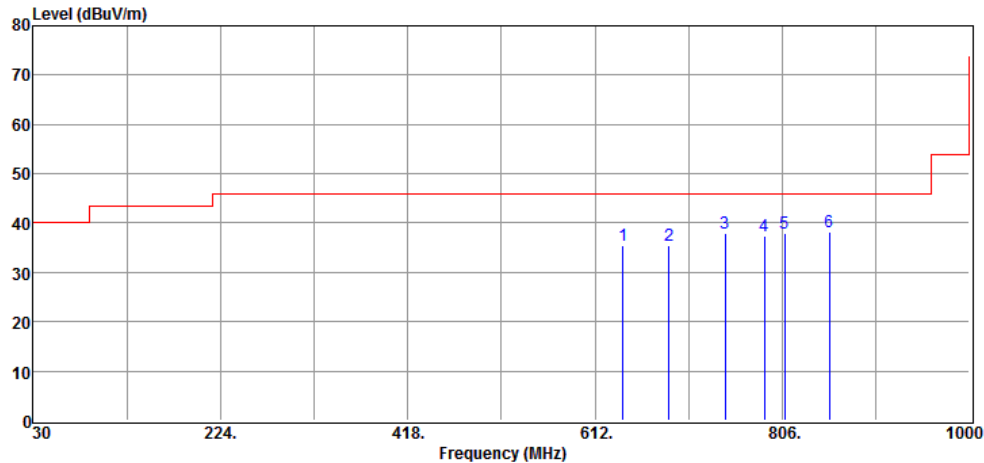
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx Mid ch 040 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	613.94	38.56	-2.97	35.59	46.00	-10.41	Peak	HORIZONTAL
2	661.47	38.02	-2.43	35.59	46.00	-10.41	Peak	HORIZONTAL
3	731.31	41.02	-1.20	39.82	46.00	-6.18	Peak	HORIZONTAL
4	770.11	38.08	-0.33	37.75	46.00	-8.25	Peak	HORIZONTAL
5	853.53	38.13	0.51	38.64	46.00	-7.36	Peak	HORIZONTAL
6	936.95	38.06	1.60	39.66	46.00	-6.34	Peak	HORIZONTAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
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Date: 2025-10-03

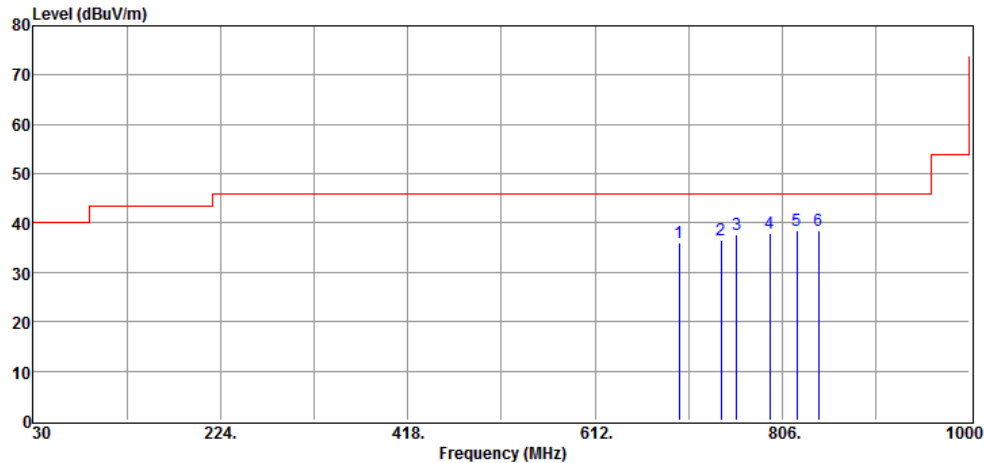
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx High ch 040 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	641.10	38.10	-2.53	35.57	46.00	-10.43	Peak	VERTICAL
2	688.63	37.36	-2.02	35.34	46.00	-10.66	Peak	VERTICAL
3	746.83	38.64	-0.73	37.91	46.00	-8.09	Peak	VERTICAL
4	787.57	37.59	-0.29	37.30	46.00	-8.70	Peak	VERTICAL
5	808.91	38.15	-0.14	38.01	46.00	-7.99	Peak	VERTICAL
6	854.50	37.57	0.53	38.10	46.00	-7.90	Peak	VERTICAL

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Company Address: No. 120, Lane 180, Hsin Ho Rd.
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Date: 2025-10-03

Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx High ch 040 Tested by : Barry Lee



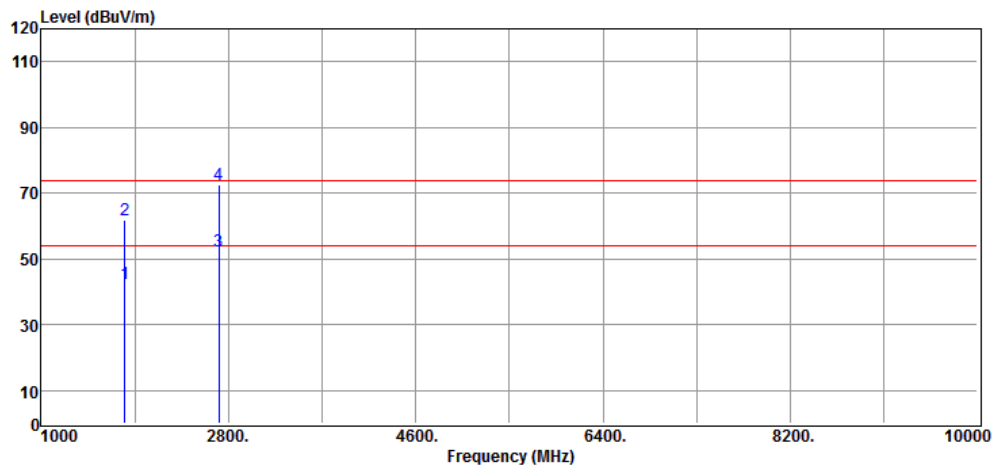
No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	699.30	37.86	-1.79	36.07	46.00	-9.93	Peak	HORIZONTAL
2	742.95	37.55	-0.86	36.69	46.00	-9.31	Peak	HORIZONTAL
3	758.47	38.14	-0.38	37.76	46.00	-8.24	Peak	HORIZONTAL
4	793.39	38.13	-0.27	37.86	46.00	-8.14	Peak	HORIZONTAL
5	821.52	38.50	0.05	38.55	46.00	-7.45	Peak	HORIZONTAL
6	843.83	38.12	0.33	38.45	46.00	-7.55	Peak	HORIZONTAL

7.4.2 Radiated Spurious Emission Measurement Result (above 1GHz)

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
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Date: 2025-10-02

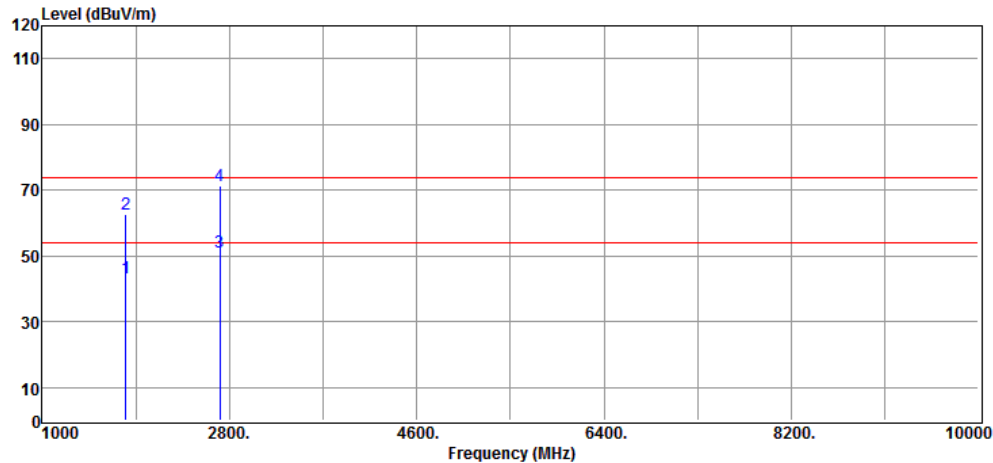
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx Low ch 025 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	1805.00	42.20	0.26	42.46	54.00	-11.54	Average	VERTICAL
2	1805.00	61.46	0.26	61.72	74.00	-12.28	Peak	VERTICAL
3	2708.00	48.87	3.52	52.39	54.00	-1.61	Average	VERTICAL
4	2708.00	68.97	3.52	72.49	74.00	-1.51	Peak	VERTICAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
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Date: 2025-10-02

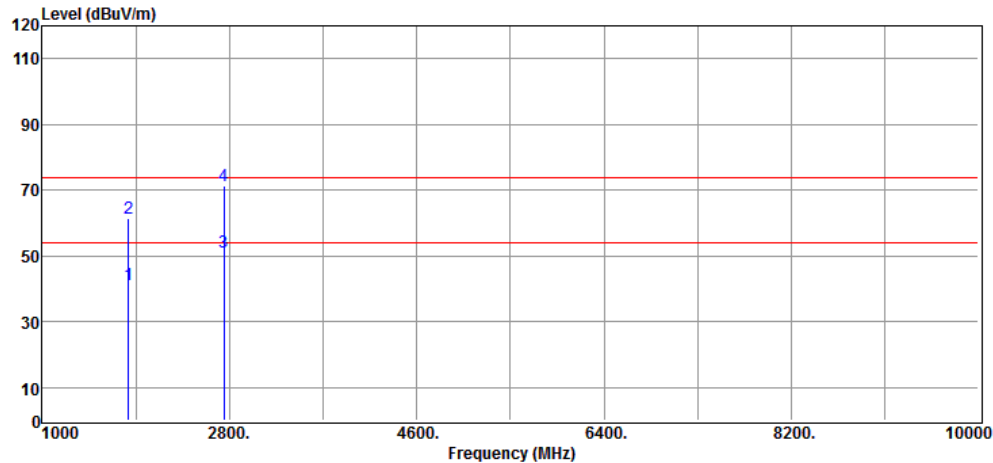
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx Low ch 025 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	1805.00	42.87	0.26	43.13	54.00	-10.87	Average	HORIZONTAL
2	1805.00	62.46	0.26	62.72	74.00	-11.28	Peak	HORIZONTAL
3	2708.00	47.45	3.52	50.97	54.00	-3.03	Average	HORIZONTAL
4	2708.00	67.95	3.52	71.47	74.00	-2.53	Peak	HORIZONTAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-02

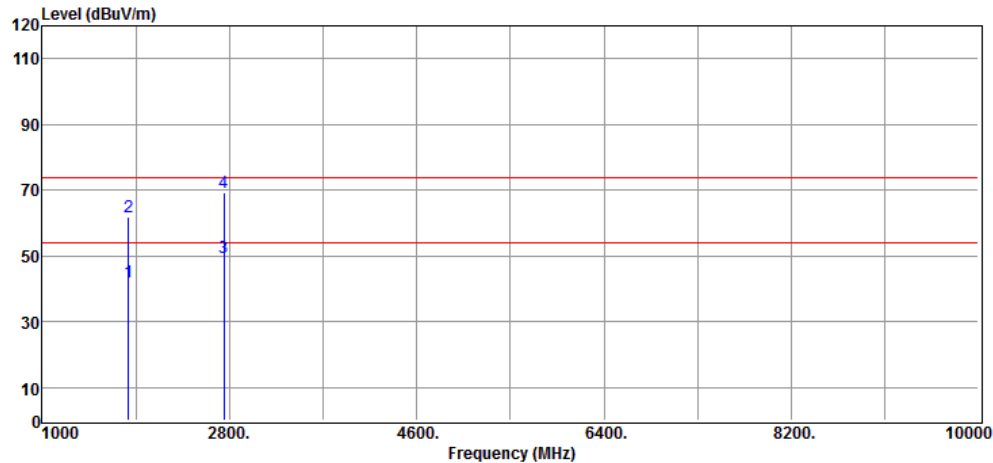
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx Mid ch 025 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	1830.00	40.86	0.58	41.44	54.00	-12.56	Average	VERTICAL
2	1830.00	60.97	0.58	61.55	74.00	-12.45	Peak	VERTICAL
3	2745.00	47.48	3.64	51.12	54.00	-2.88	Average	VERTICAL
4	2745.00	67.54	3.64	71.18	74.00	-2.82	Peak	VERTICAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-03

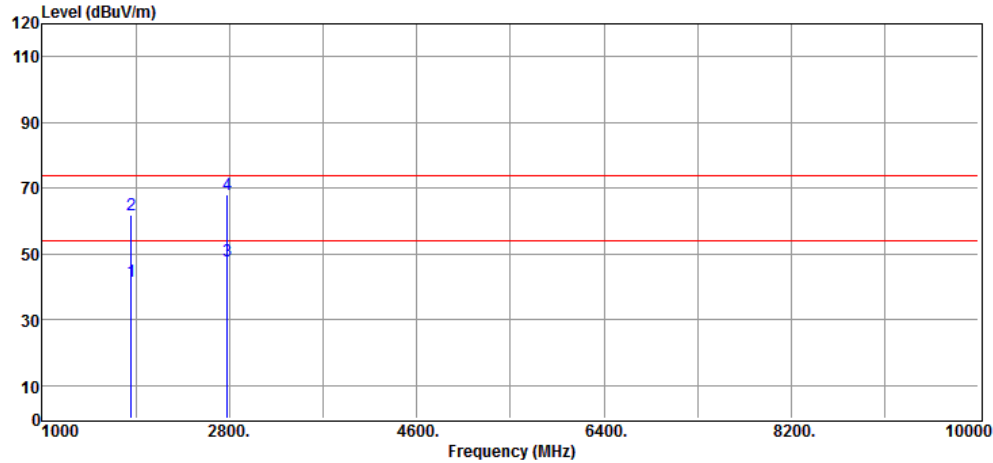
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx Mid ch 025 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	1830.00	41.50	0.58	42.08	54.00	-11.92	Average	HORIZONTAL
2	1830.00	61.30	0.58	61.88	74.00	-12.12	Peak	HORIZONTAL
3	2745.00	45.93	3.64	49.57	54.00	-4.43	Average	HORIZONTAL
4	2745.00	65.78	3.64	69.42	74.00	-4.58	Peak	HORIZONTAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-03

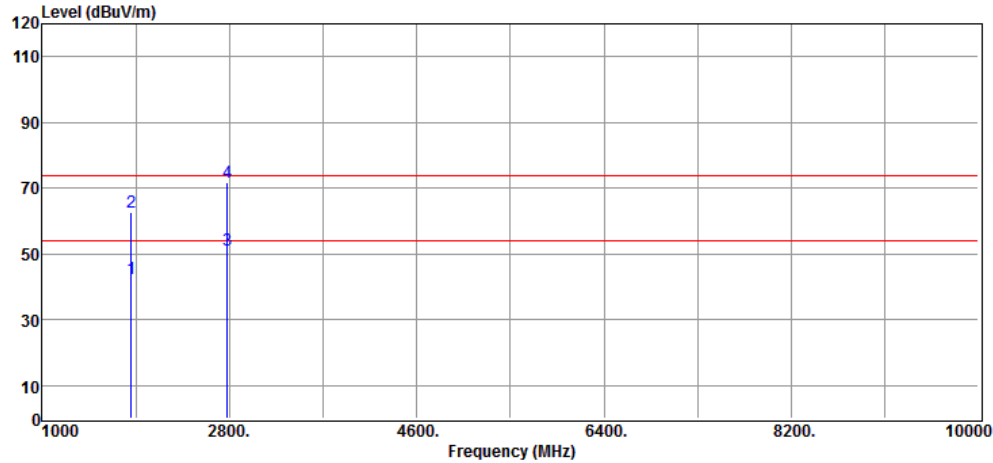
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx High ch 025 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	1854.00	41.02	0.81	41.83	54.00	-12.17	Average	VERTICAL
2	1854.00	61.06	0.81	61.87	74.00	-12.13	Peak	VERTICAL
3	2781.00	44.15	3.82	47.97	54.00	-6.03	Average	VERTICAL
4	2781.00	64.21	3.82	68.03	74.00	-5.97	Peak	VERTICAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-03

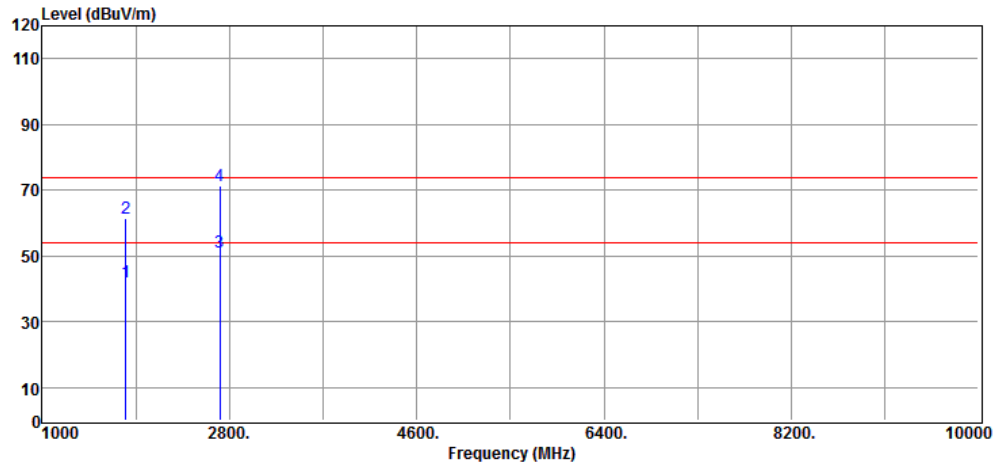
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx High ch 025 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	1854.00	41.48	0.81	42.29	54.00	-11.71	Average	HORIZONTAL
2	1854.00	61.90	0.81	62.71	74.00	-11.29	Peak	HORIZONTAL
3	2781.00	47.43	3.82	51.25	54.00	-2.75	Average	HORIZONTAL
4	2781.00	67.97	3.82	71.79	74.00	-2.21	Peak	HORIZONTAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-03

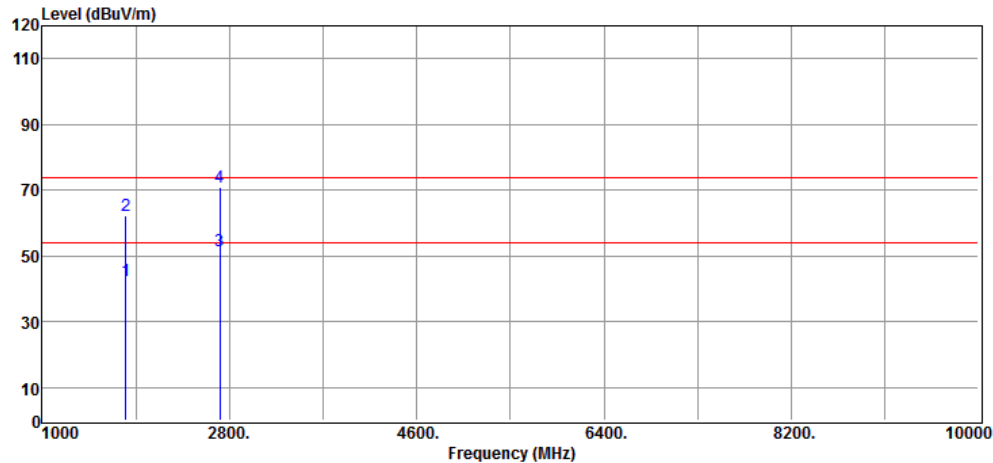
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx Low ch Chip Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	1805.00	41.66	0.26	41.92	54.00	-12.08	Average	VERTICAL
2	1805.00	61.21	0.26	61.47	74.00	-12.53	Peak	VERTICAL
3	2707.50	47.49	3.51	51.00	54.00	-3.00	Average	VERTICAL
4	2707.50	67.76	3.51	71.27	74.00	-2.73	Peak	VERTICAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-03

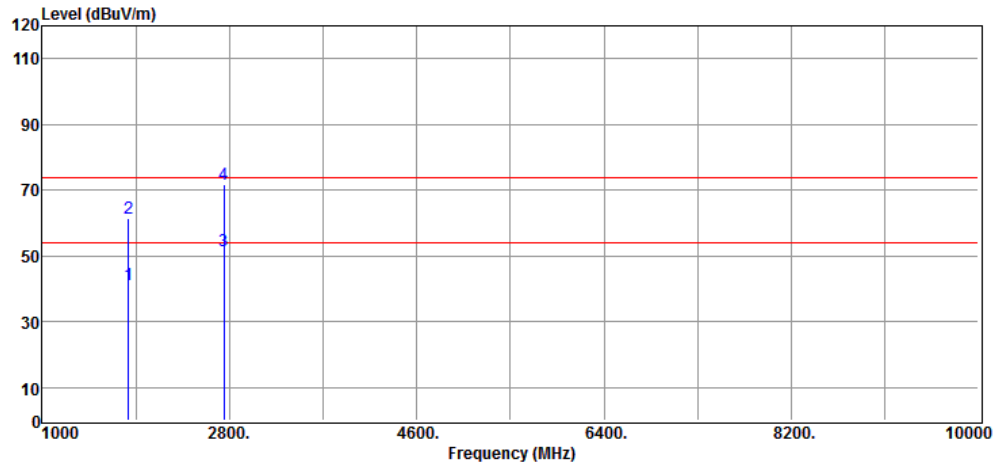
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx Low ch Chip Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	1805.00	42.27	0.26	42.53	54.00	-11.47	Average	HORIZONTAL
2	1805.00	62.03	0.26	62.29	74.00	-11.71	Peak	HORIZONTAL
3	2707.50	47.90	3.51	51.41	54.00	-2.59	Average	HORIZONTAL
4	2707.50	67.58	3.51	71.09	74.00	-2.91	Peak	HORIZONTAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-03

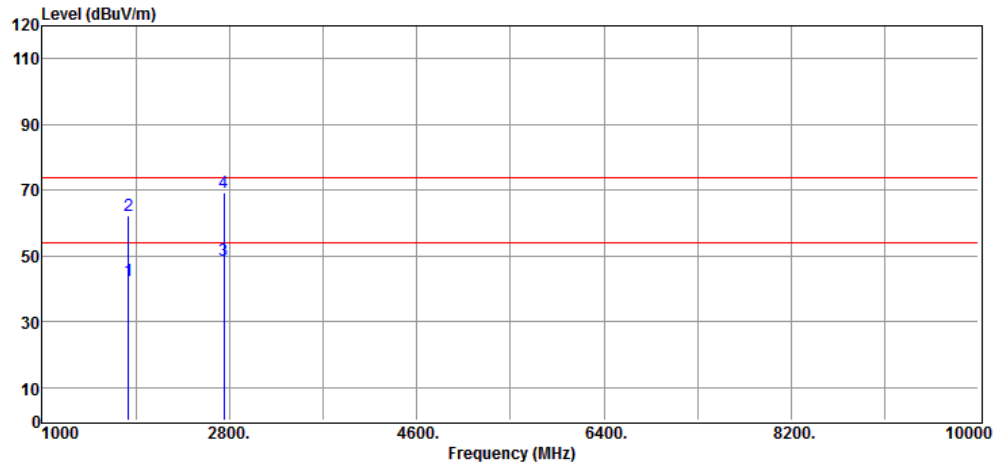
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx Mid ch Chip Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	1830.00	40.48	0.58	41.06	54.00	-12.94	Average	VERTICAL
2	1830.00	60.78	0.58	61.36	74.00	-12.64	Peak	VERTICAL
3	2745.00	48.08	3.64	51.72	54.00	-2.28	Average	VERTICAL
4	2745.00	68.21	3.64	71.85	74.00	-2.15	Peak	VERTICAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-03

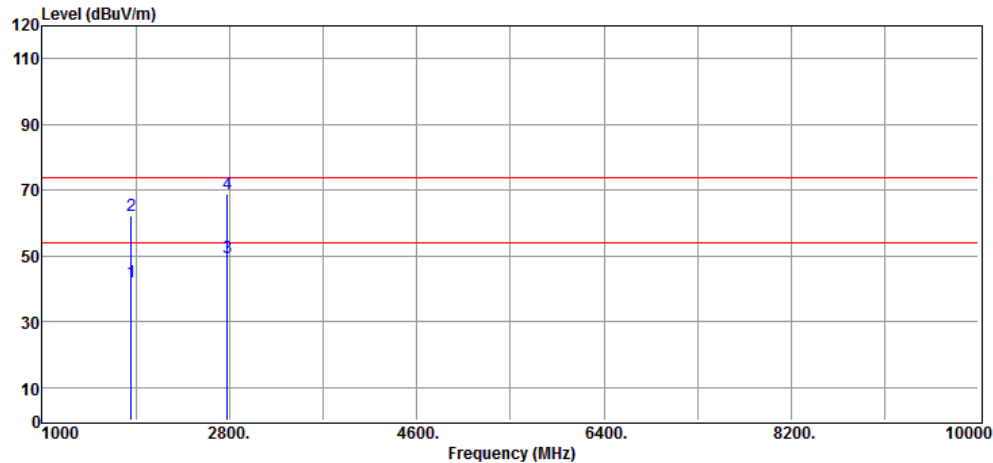
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx Mid ch Chip Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	1830.00	41.98	0.58	42.56	54.00	-11.44	Average	HORIZONTAL
2	1830.00	61.77	0.58	62.35	74.00	-11.65	Peak	HORIZONTAL
3	2745.00	45.16	3.64	48.80	54.00	-5.20	Average	HORIZONTAL
4	2745.00	65.58	3.64	69.22	74.00	-4.78	Peak	HORIZONTAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-03

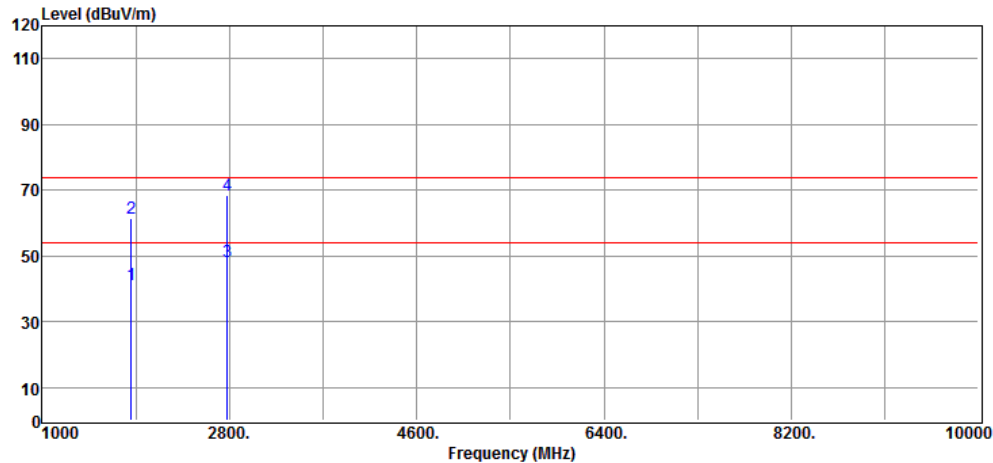
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx High ch Chip Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	1854.00	41.36	0.81	42.17	54.00	-11.83	Average	VERTICAL
2	1854.00	61.29	0.81	62.10	74.00	-11.90	Peak	VERTICAL
3	2781.00	45.87	3.82	49.69	54.00	-4.31	Average	VERTICAL
4	2781.00	65.08	3.82	68.90	74.00	-5.10	Peak	VERTICAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-03

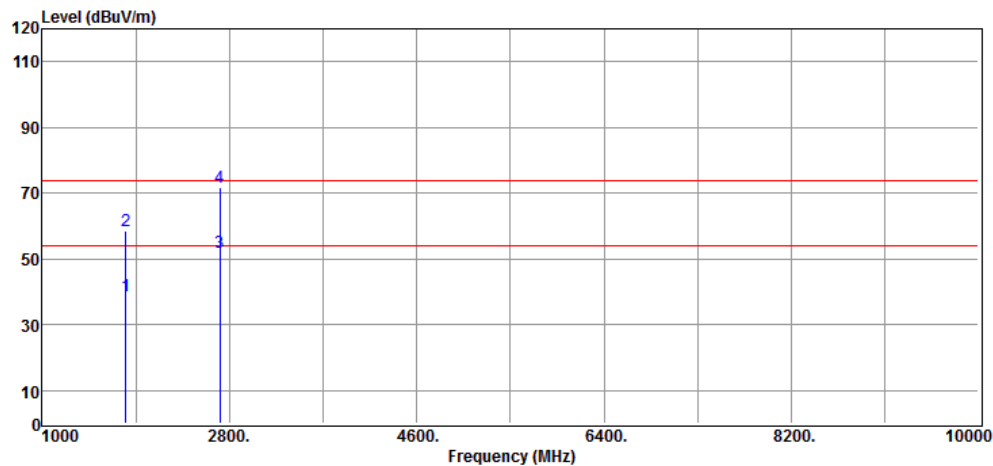
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx High ch Chip Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	1854.00	40.45	0.81	41.26	54.00	-12.74	Average	HORIZONTAL
2	1854.00	60.49	0.81	61.30	74.00	-12.70	Peak	HORIZONTAL
3	2781.00	44.45	3.82	48.27	54.00	-5.73	Average	HORIZONTAL
4	2781.00	64.55	3.82	68.37	74.00	-5.63	Peak	HORIZONTAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-03

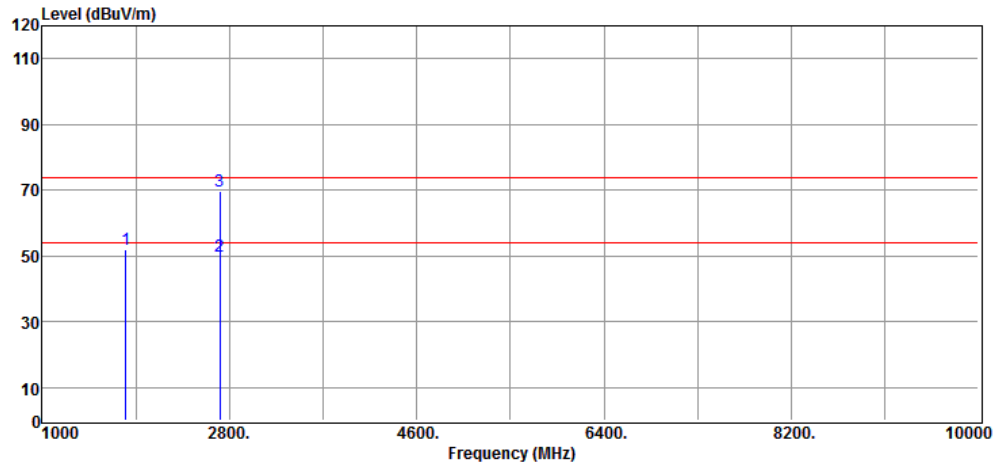
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx Low ch 088 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	1805.00	38.36	0.26	38.62	54.00	-15.38	Average	VERTICAL
2	1805.00	58.15	0.26	58.41	74.00	-15.59	Peak	VERTICAL
3	2708.00	48.28	3.52	51.80	54.00	-2.20	Average	VERTICAL
4	2708.00	68.20	3.52	71.72	74.00	-2.28	Peak	VERTICAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-03

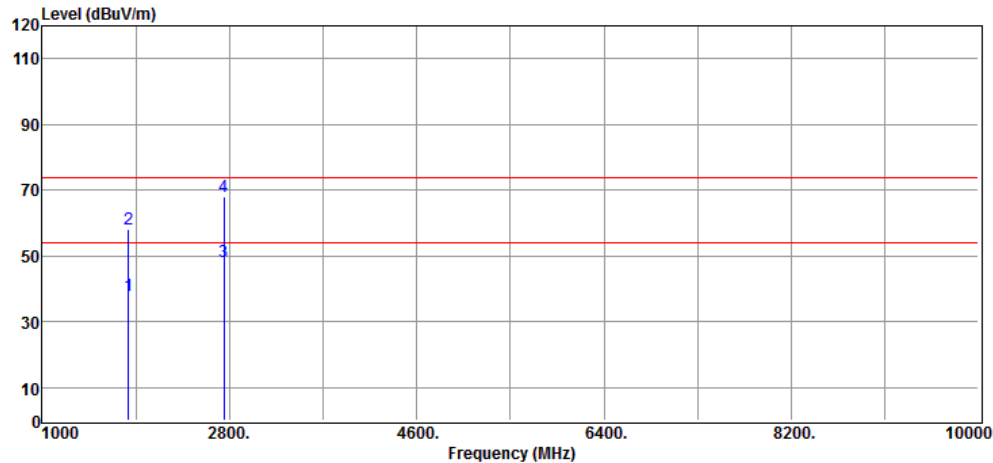
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx Low ch 088 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	1805.00	51.90	0.26	52.16	74.00	-21.84	Peak	HORIZONTAL
2	2708.00	46.52	3.52	50.04	54.00	-3.96	Average	HORIZONTAL
3	2708.00	66.14	3.52	69.66	74.00	-4.34	Peak	HORIZONTAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-03

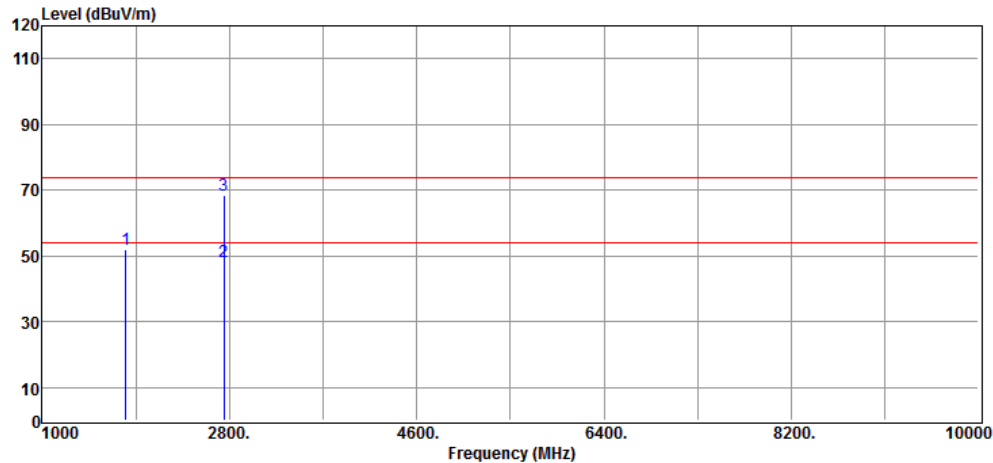
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx Mid ch 088 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	1830.00	37.37	0.58	37.95	54.00	-16.05	Average	VERTICAL
2	1830.00	57.58	0.58	58.16	74.00	-15.84	Peak	VERTICAL
3	2745.00	44.66	3.64	48.30	54.00	-5.70	Average	VERTICAL
4	2745.00	64.32	3.64	67.96	74.00	-6.04	Peak	VERTICAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-03

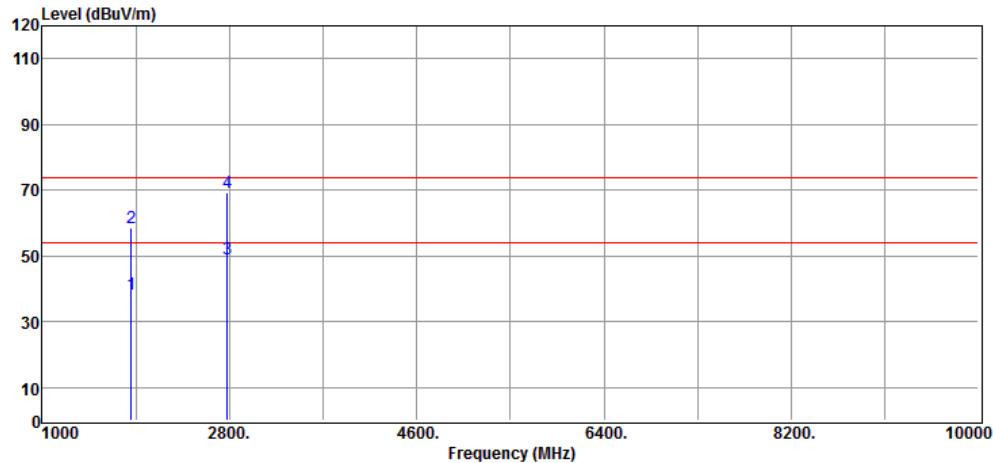
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx Mid ch 088 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	1805.00	51.61	0.26	51.87	74.00	-22.13	Peak	HORIZONTAL
2	2745.00	44.41	3.64	48.05	54.00	-5.95	Average	HORIZONTAL
3	2745.00	64.97	3.64	68.61	74.00	-5.39	Peak	HORIZONTAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-03

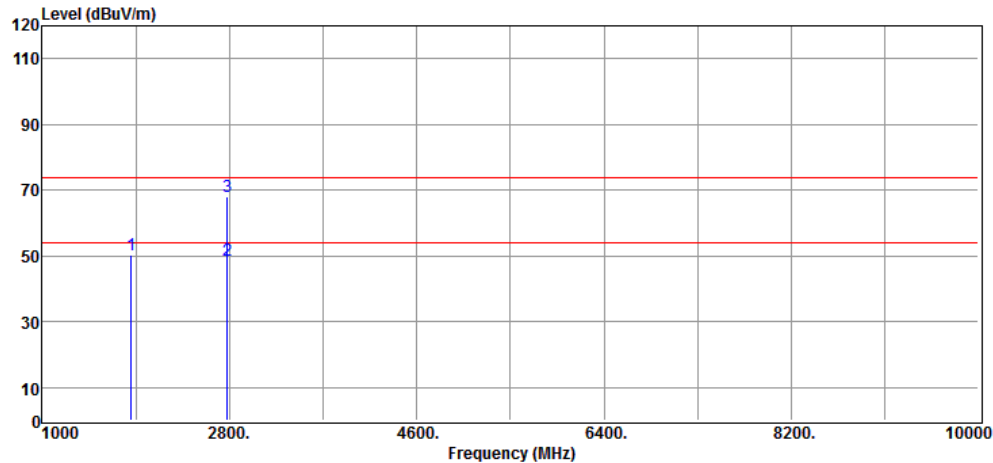
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx High ch 088 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	1854.00	37.59	0.81	38.40	54.00	-15.60	Average	VERTICAL
2	1854.00	57.81	0.81	58.62	74.00	-15.38	Peak	VERTICAL
3	2781.00	45.14	3.82	48.96	54.00	-5.04	Average	VERTICAL
4	2781.00	65.37	3.82	69.19	74.00	-4.81	Peak	VERTICAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-03

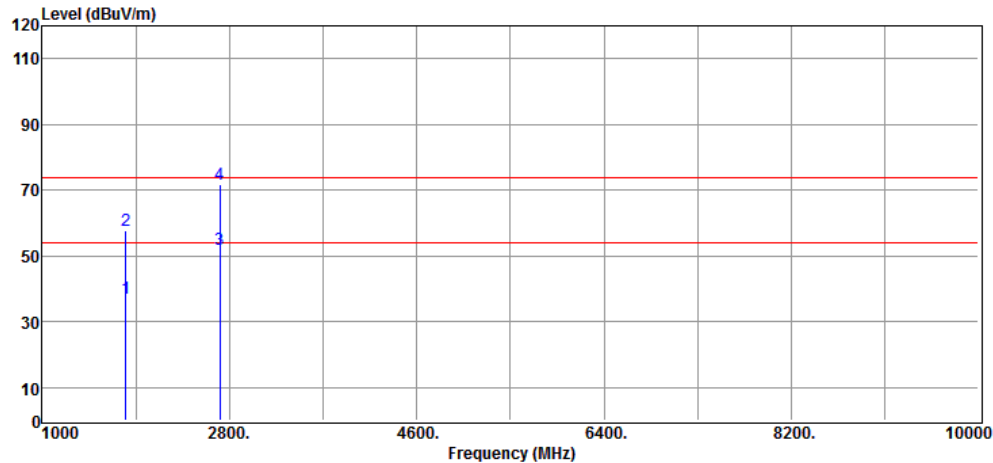
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx High ch 088 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	1854.00	49.65	0.81	50.46	74.00	-23.54	Peak	HORIZONTAL
2	2781.00	44.95	3.82	48.77	54.00	-5.23	Average	HORIZONTAL
3	2781.00	64.07	3.82	67.89	74.00	-6.11	Peak	HORIZONTAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-03

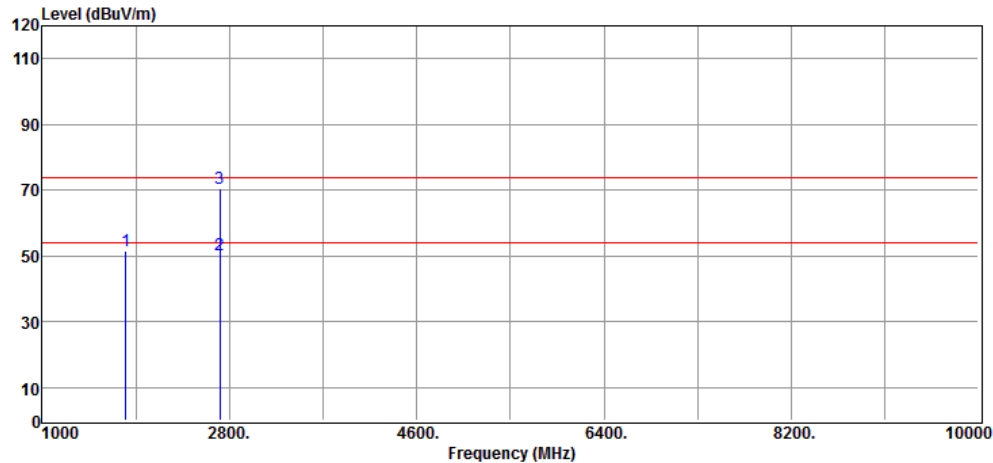
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx Low ch 040 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	1805.00	37.02	0.26	37.28	54.00	-16.72	Average	VERTICAL
2	1805.00	57.44	0.26	57.70	74.00	-16.30	Peak	VERTICAL
3	2708.00	48.30	3.52	51.82	54.00	-2.18	Average	VERTICAL
4	2708.00	68.28	3.52	71.80	74.00	-2.20	Peak	VERTICAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-03

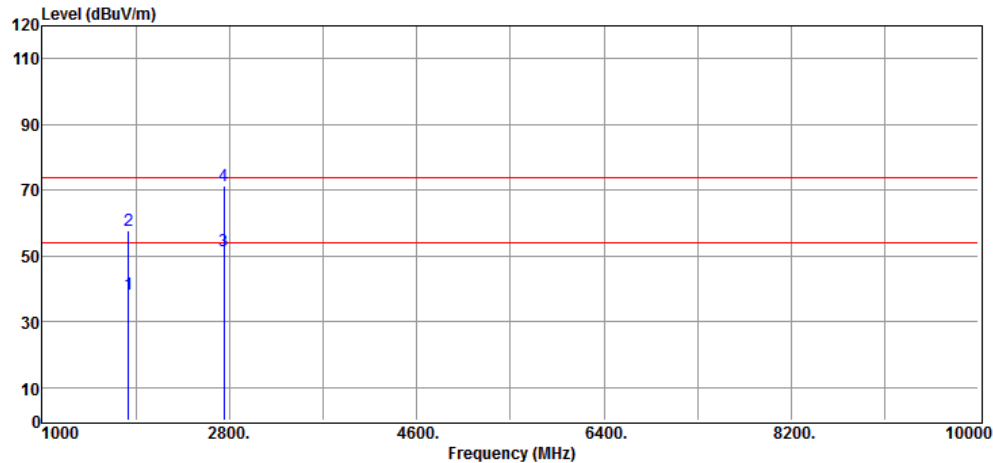
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx Low ch 040 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	1805.00	51.36	0.26	51.62	74.00	-22.38	Peak	HORIZONTAL
2	2708.00	46.87	3.52	50.39	54.00	-3.61	Average	HORIZONTAL
3	2708.00	66.94	3.52	70.46	74.00	-3.54	Peak	HORIZONTAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-03

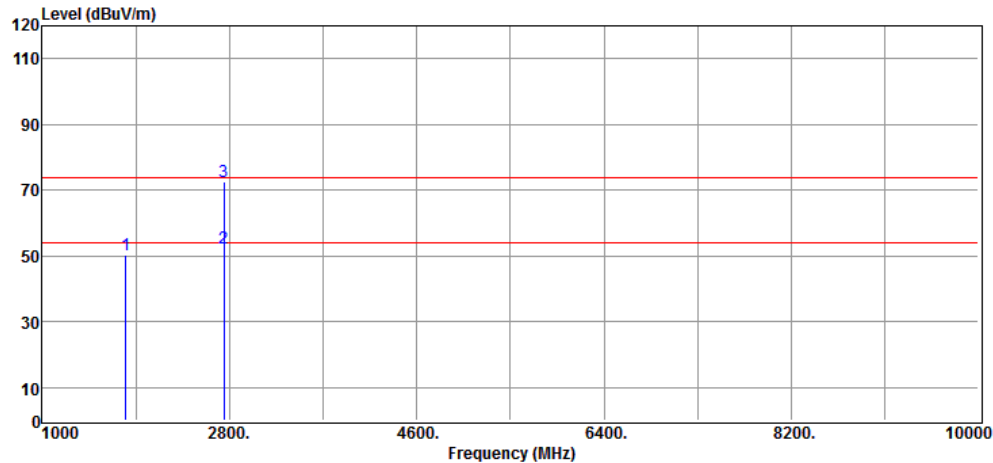
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx Mid ch 040 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	1830.00	37.76	0.58	38.34	54.00	-15.66	Average	VERTICAL
2	1830.00	57.19	0.58	57.77	74.00	-16.23	Peak	VERTICAL
3	2745.00	47.86	3.64	51.50	54.00	-2.50	Average	VERTICAL
4	2745.00	67.88	3.64	71.52	74.00	-2.48	Peak	VERTICAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-03

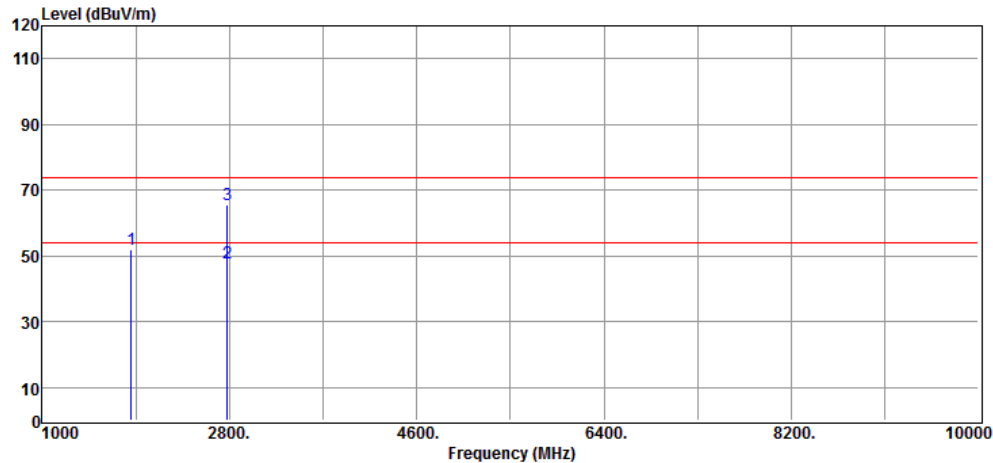
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx Mid ch 040 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	1805.00	50.21	0.26	50.47	74.00	-23.53	Peak	HORIZONTAL
2	2745.00	48.56	3.64	52.20	54.00	-1.80	Average	HORIZONTAL
3	2745.00	69.14	3.64	72.78	74.00	-1.22	Peak	HORIZONTAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-03

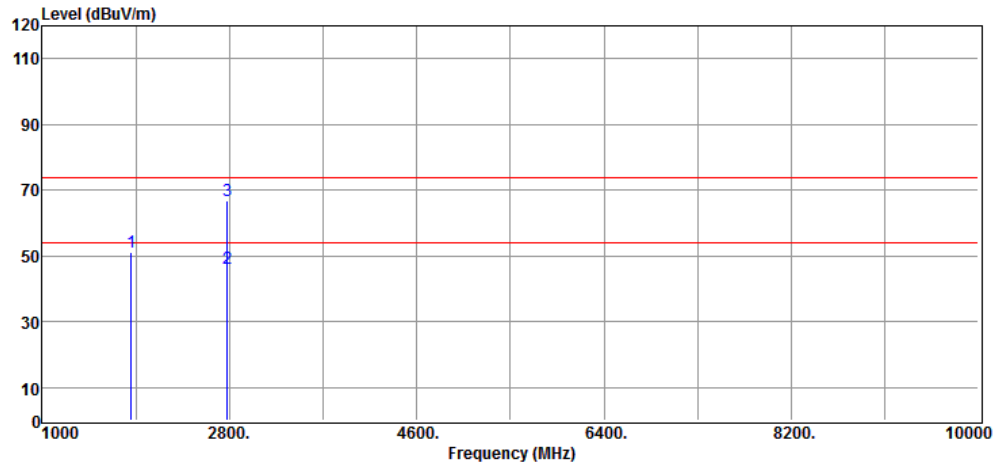
Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx High ch 040 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	1854.00	51.04	0.81	51.85	74.00	-22.15	Peak	VERTICAL
2	2781.00	43.98	3.82	47.80	54.00	-6.20	Average	VERTICAL
3	2781.00	61.93	3.82	65.75	74.00	-8.25	Peak	VERTICAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-03

Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : Tx High ch 040 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	1854.00	50.19	0.81	51.00	74.00	-23.00	Peak	HORIZONTAL
2	2781.00	42.56	3.82	46.38	54.00	-7.62	Average	HORIZONTAL
3	2781.00	62.78	3.82	66.60	74.00	-7.40	Peak	HORIZONTAL

7.4.3 Conducted Spurious Emission Measurement Result

Location	Equipment Name	Brand	Model	S/N	Last Cal. Date	Next Cal. Date
Conduction 02	EMI Receiver 20	R&S	ESR7	101326	04/25/2025	04/25/2026
Conduction 02	Conduction 02-1 01 Cable	WOKEN	CFD 300-NL	Conduction 02-1	08/29/2025	08/29/2026
Conduction 02	LISN 26	R&S	ENV216	102378	11/29/2024	11/29/2025
Conduction 02	LISN 21	R&S	ENV216	101476	07/05/2025	07/05/2026
Conduction 02	ISN T8 CAT6A 02	SCHWARZB ECK	NTFM 8158	NTFM 8158-00370	09/19/2025	09/19/2026
Conduction 02	ISN T4 07	TESEQ	ISN T400A	30449	08/26/2025	08/26/2026
Conduction 02	ISN T8 10	TESEQ	ISN T800	42773	06/04/2025	06/04/2026
Conduction 02	CDN ISN ST08A 01	TESEQ	CDN ISN ST08A	43352	08/07/2025	08/07/2026
Conduction 02	Capacitive Voltage Probe 01	SCHAFFNER	CVP 2200A	18711	01/23/2025	01/23/2026
Conduction 02	Current Probe 01	SCHAFFNER	SMZ 11	18030	01/15/2025	01/15/2026
Conduction 02 (EN_IEC_550 14-1)	High Voltage Probe_01	SCHWARZB ECK	TK 9420	TK 9420-796	08/02/2024	08/02/2026

8. 100kHz Bandwidth of Band Edges Measurement

8.1 Standard Applicable

According to §15.247(d), in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

8.2 Measurement Procedure

1. Place the EUT on the table and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set center frequency of spectrum analyzer = operating frequency.
4. Set the spectrum analyzer as RBW=1MHz, VBW $\geq$ 3*RBW (for Peak); VBW $\geq$ 1/T_{on} (for Average), Sweep = auto.
5. Mark Peak, 2.390GHz and 2.4835GHz and record the max. level.
6. Repeat above procedures until all frequency measured were complete.

8.3 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CL - AG$$

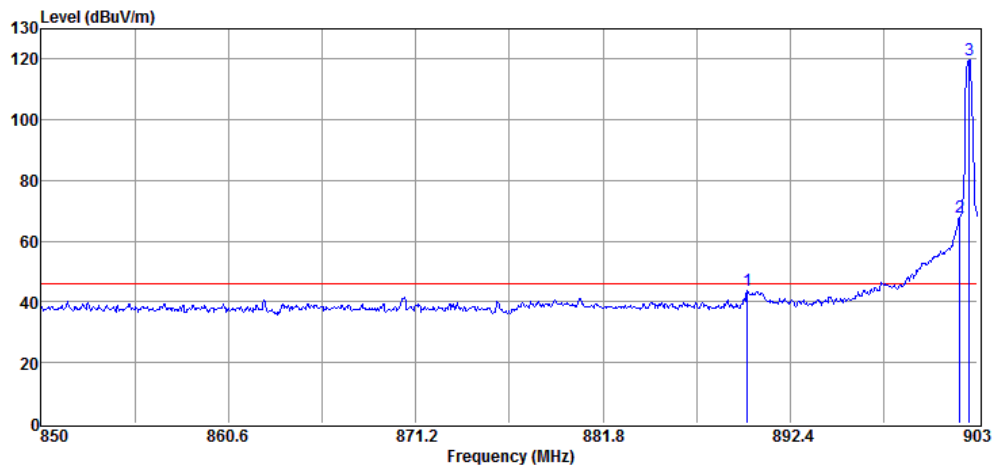
Where	FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
	RA = Reading Amplitude	AG = Amplifier Gain
	AF = Antenna Factor	

8.4 Measurement Result

8.4.1 Radiated Band Edges Measurement Result

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-02

Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : bandedge Low ch 088 Tested by : Barry Lee

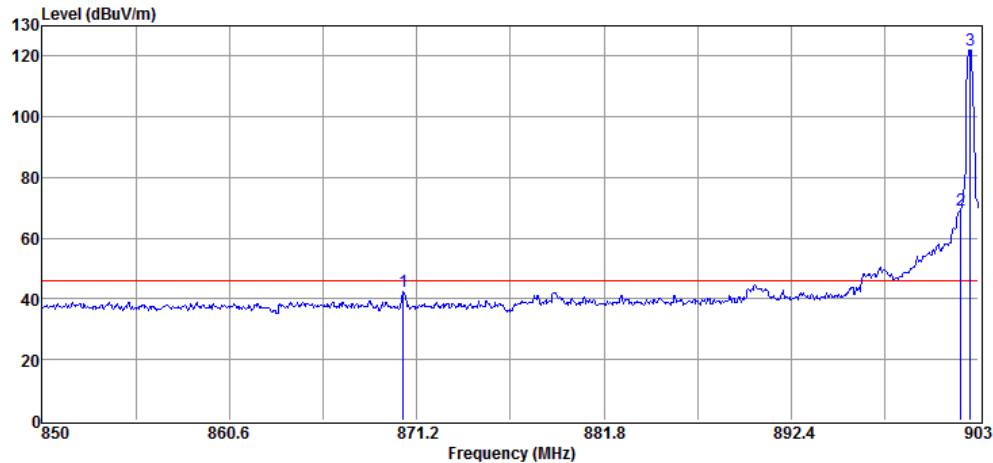


No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	889.96	42.90	0.71	43.61	46.00	-2.39	Peak	VERTICAL
2	902.00	67.03	1.01	68.04	99.5	-31.46	Peak	VERTICAL
3	902.52	118.46	1.04	119.50	F	--	Peak	VERTICAL

Note: "F" denotes fundamental frequency.

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-02

Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : bandedge Low ch 088 Tested by : Barry Lee

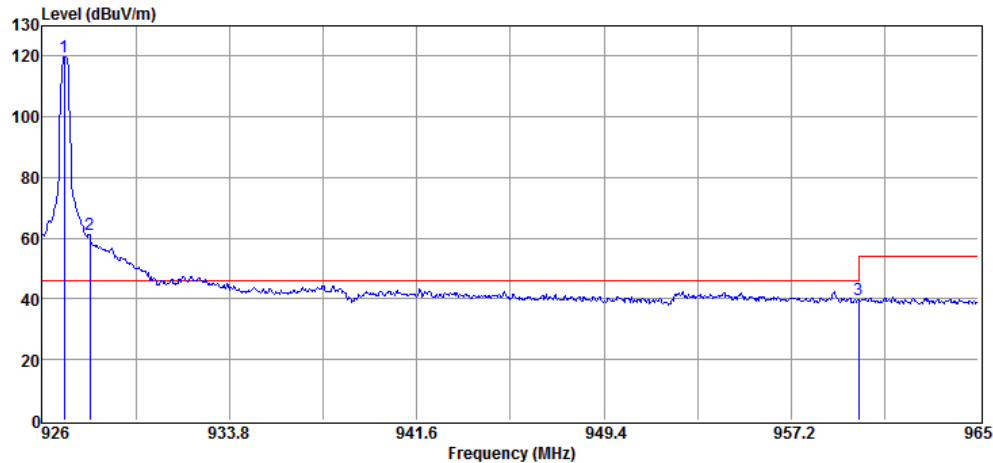


No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	870.46	42.12	0.49	42.61	46.00	-3.39	Peak	HORIZONTAL
2	902.00	68.26	1.01	69.27	101.94	-32.67	Peak	HORIZONTAL
3	902.52	120.90	1.04	121.94	F	--	Peak	HORIZONTAL

Note: "F" denotes fundamental frequency.

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-02

Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : bandedge High 088 Tested by : Barry Lee



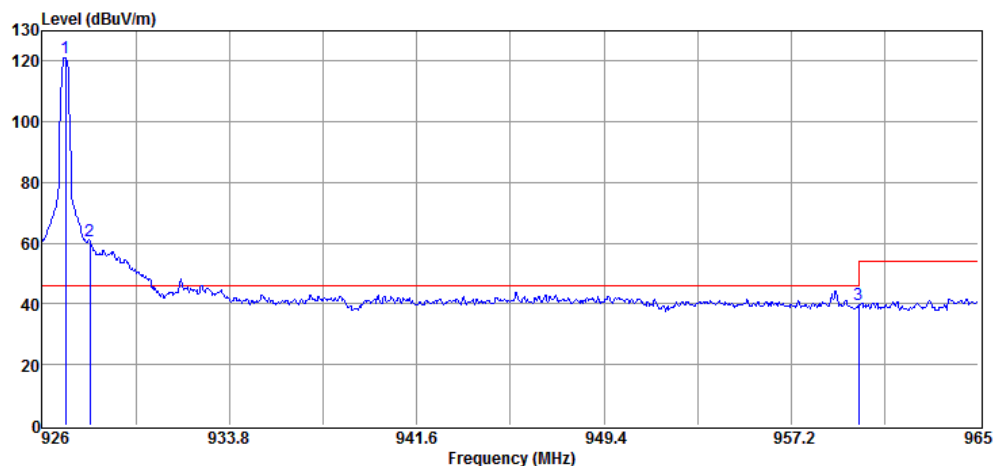
No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	926.94	118.27	1.68	119.95	F	--	Peak	VERTICAL
2	928.00	59.36	1.68	61.04	99.95	-38.91	Peak	VERTICAL
3	960.00	37.62	2.04	39.66	46.00	-6.34	Peak	VERTICAL

Note: "F" denotes fundamental frequency.

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan

Date: 2025-10-02

Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : bandedge High 088 Tested by : Barry Lee

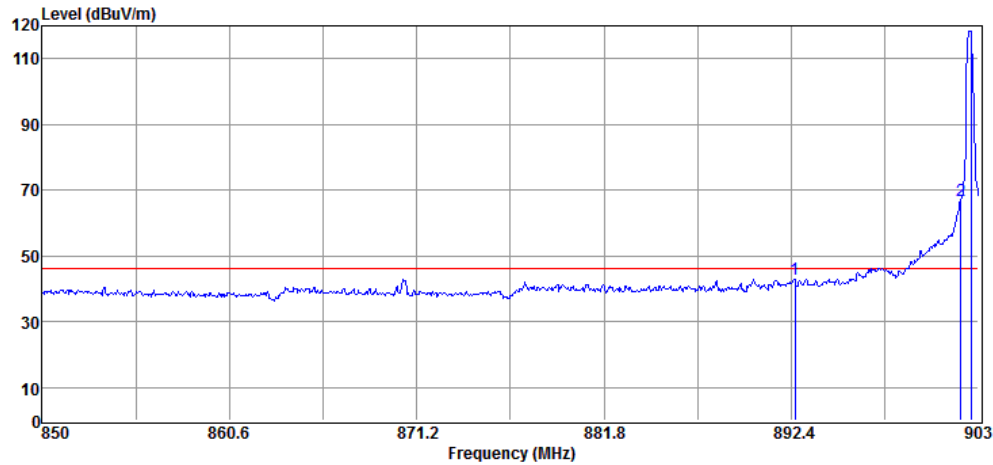


No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	926.98	119.20	1.68	120.88	F	--	Peak	HORIZONTAL
2	928.00	59.23	1.68	60.91	100.88	-39.97	Peak	HORIZONTAL
3	960.00	37.94	2.04	39.98	46.00	-6.02	Peak	HORIZONTAL

Note: "F" denotes fundamental frequency.

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-02

Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : bandedge Low 025 Tested by : Barry Lee

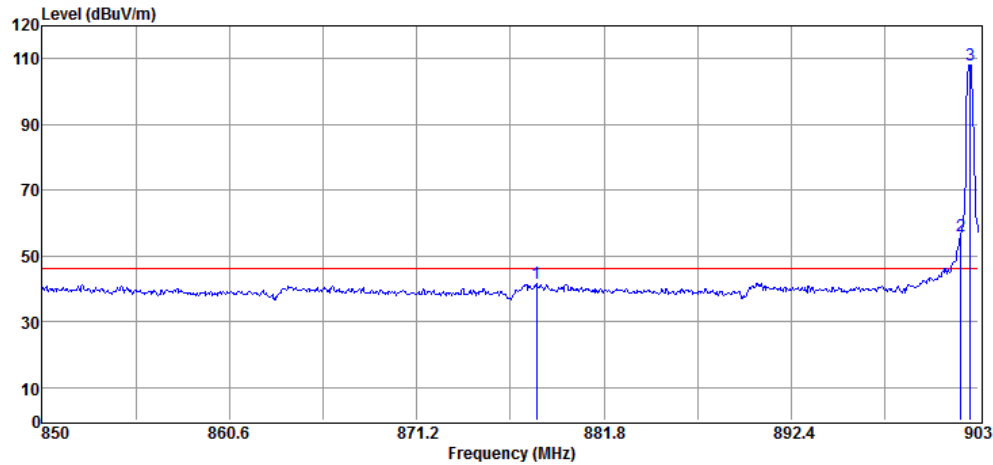


No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	892.61	42.19	0.76	42.95	46.00	-3.05	Peak	VERTICAL
2	902.00	65.74	1.01	66.75	98.23	-31.48	Peak	VERTICAL
3	902.58	117.19	1.04	118.23	F	--	Peak	VERTICAL

Note: "F" denotes fundamental frequency.

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-02

Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : bandedge Low 025 Tested by : Barry Lee

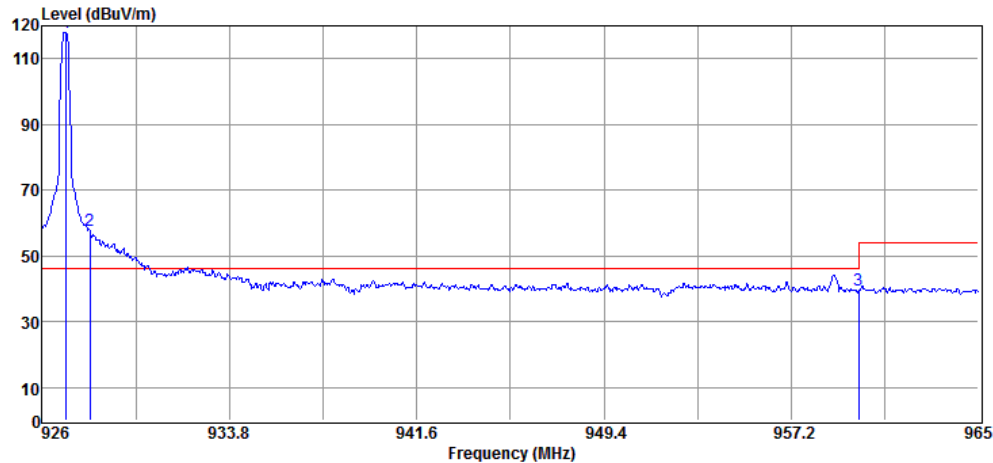


No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	877.98	40.85	0.65	41.50	46.00	-4.50	Peak	HORIZONTAL
2	902.00	55.16	1.01	56.17	88.04	-31.87	Peak	HORIZONTAL
3	902.52	107.00	1.04	108.04	F	--	Peak	HORIZONTAL

Note: "F" denotes fundamental frequency.

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-02

Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : bandedge High 025 Tested by : Barry Lee

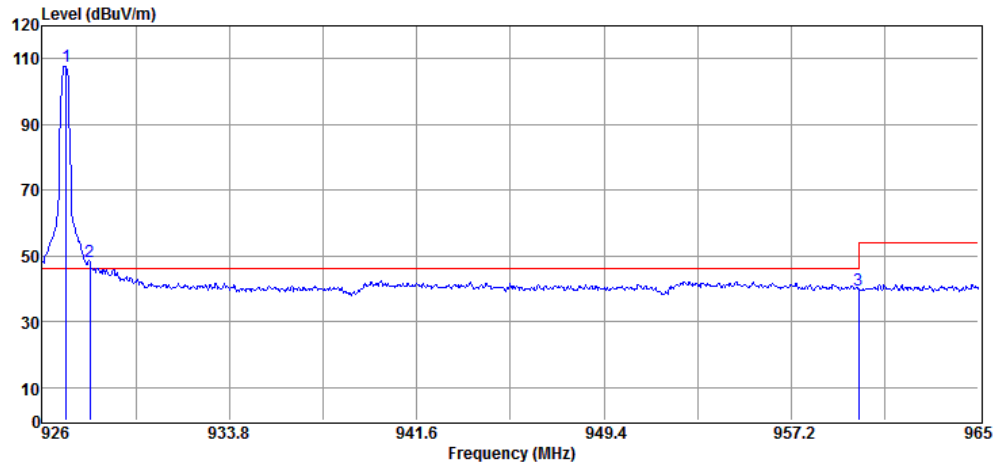


No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	927.01	116.39	1.68	118.07	F	--	Peak	VERTICAL
2	928.00	56.00	1.68	57.68	98.07	-40.39	Peak	VERTICAL
3	960.00	37.71	2.04	39.75	46.00	-6.25	Peak	VERTICAL

Note: "F" denotes fundamental frequency.

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-02

Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : bandedge High 025 Tested by : Barry Lee

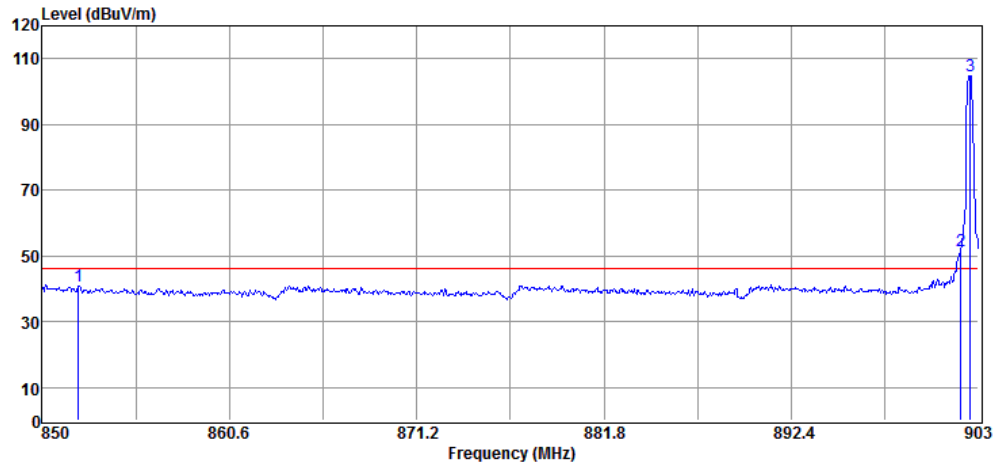


No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	927.01	106.06	1.68	107.74	F	--	Peak	HORIZONTAL
2	928.00	46.37	1.68	48.05	87.74	-39.69	Peak	HORIZONTAL
3	960.00	37.74	2.04	39.78	46.00	-6.22	Peak	HORIZONTAL

Note: "F" denotes fundamental frequency.

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-02

Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : bandedge Low chip Tested by : Barry Lee

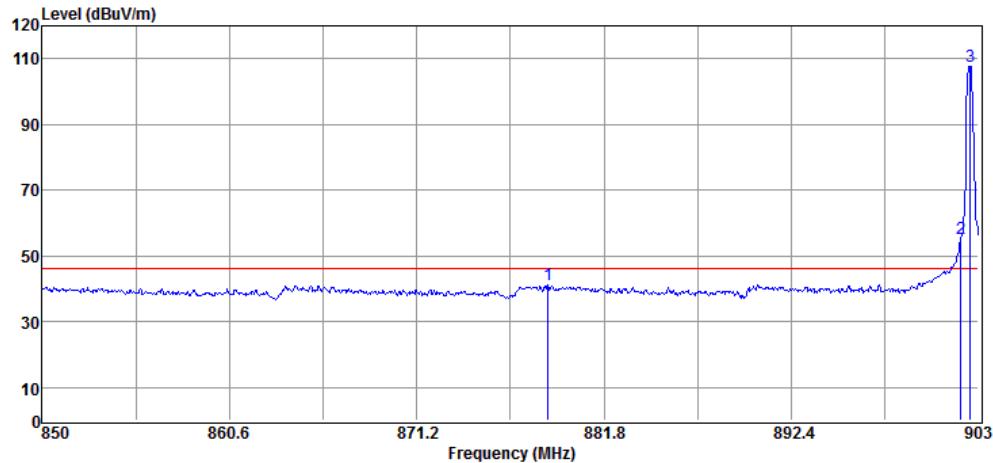


No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	852.07	40.52	0.48	41.00	46.00	-5.00	Peak	VERTICAL
2	902.00	50.67	1.01	51.68	84.9	-33.22	Peak	VERTICAL
3	902.52	103.86	1.04	104.90	F	--	Peak	VERTICAL

Note: "F" denotes fundamental frequency.

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-02

Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : bandedge Low chip Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	878.62	40.46	0.67	41.13	46.00	-4.87	Peak	HORIZONTAL
2	902.00	54.08	1.01	55.09	87.45	-32.36	Peak	HORIZONTAL
3	902.52	106.41	1.04	107.45	F	--	Peak	HORIZONTAL

Note: "F" denotes fundamental frequency.

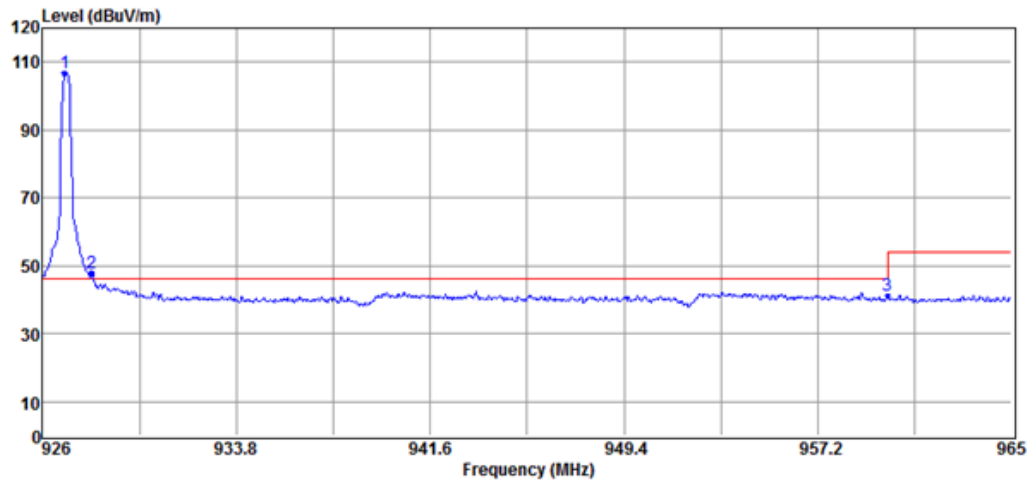


International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin-Ho Rd.
Lung-Tan Dist., Tao-Yuan City 325, Taiwan

Date: 2025-10-23

Project Number: 25LR0142 Temp.(°C)/RH(%) : 24/58

Test Mode : bandedge High-chip Tested by : Barry Lee



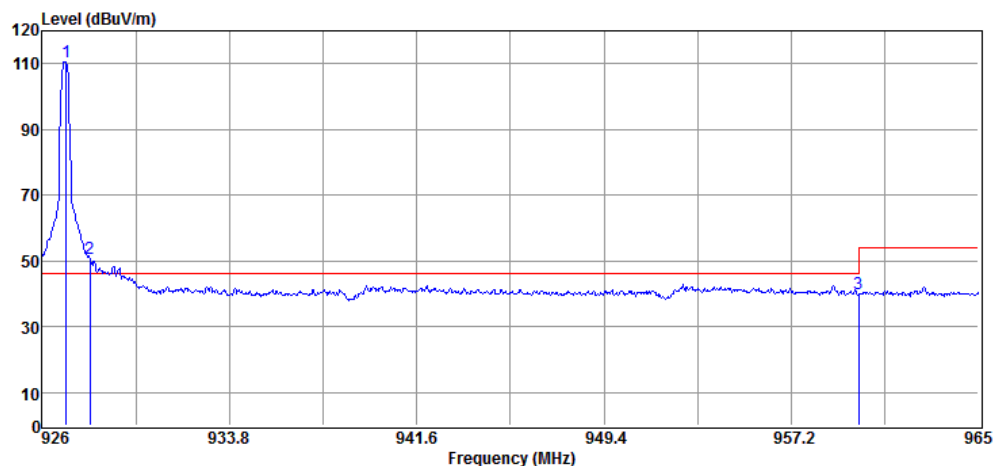
No	Freq	Reading	Factor	Level	Limit	Margin	Remark	Pol
	MHz	<u>dBuV</u>	<u>dB/m</u>	<u>dBuV/m</u>	<u>dBuV/m</u>	<u>dB</u>		V/H
1	926.90	105.29	1.68	106.97	F	-	Peak	VERTICAL
2	928.00	46.30	1.68	47.98	86.97	-38.99	Peak	VERTICAL
3	960.00	39.24	2.04	41.28	46.00	-4.72	Peak	VERTICAL

Note: "F" denotes fundamental frequency.

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan

Date: 2025-10-02

Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : bandedge High chip Tested by : Barry Lee

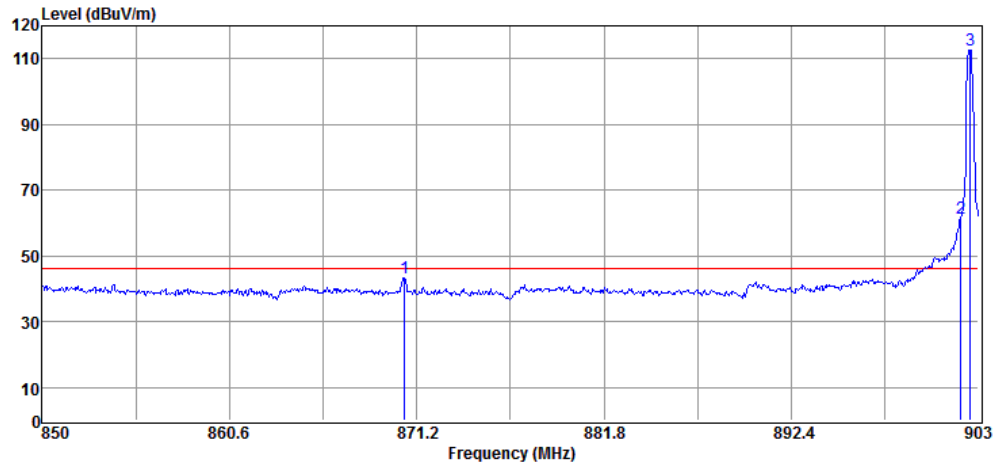


No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	927.01	108.89	1.68	110.57	F	--	Peak	HORIZONTAL
2	928.00	49.23	1.68	50.91	90.57	-39.66	Peak	HORIZONTAL
3	960.00	37.94	2.04	39.98	46.00	-6.02	Peak	HORIZONTAL

Note: "F" denotes fundamental frequency.

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-02

Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : bandedge Low ch 040 Tested by : Barry Lee

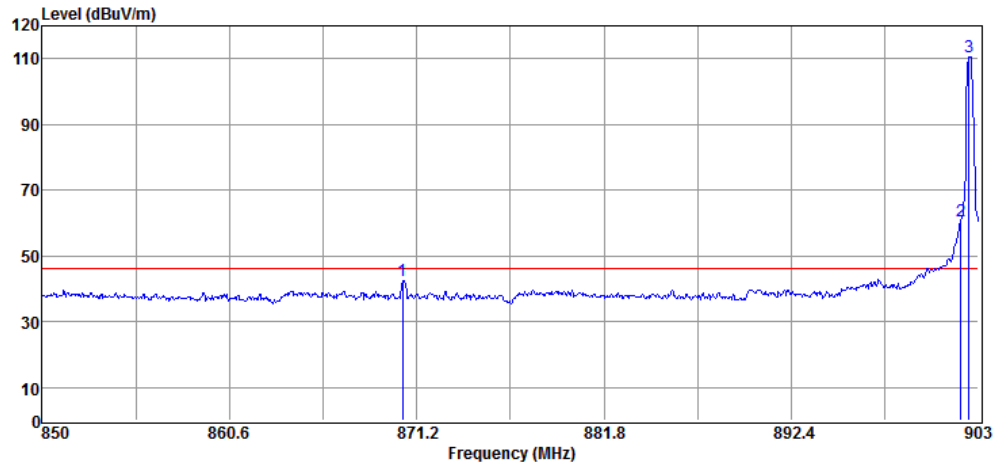


No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	870.51	42.92	0.49	43.41	46.00	-2.59	Peak	VERTICAL
2	902.00	60.53	1.01	61.54	92.54	-31	Peak	VERTICAL
3	902.52	111.50	1.04	112.54	F	--	Peak	VERTICAL

Note: "F" denotes fundamental frequency.

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-02

Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : bandedge Low ch 040 Tested by : Barry Lee

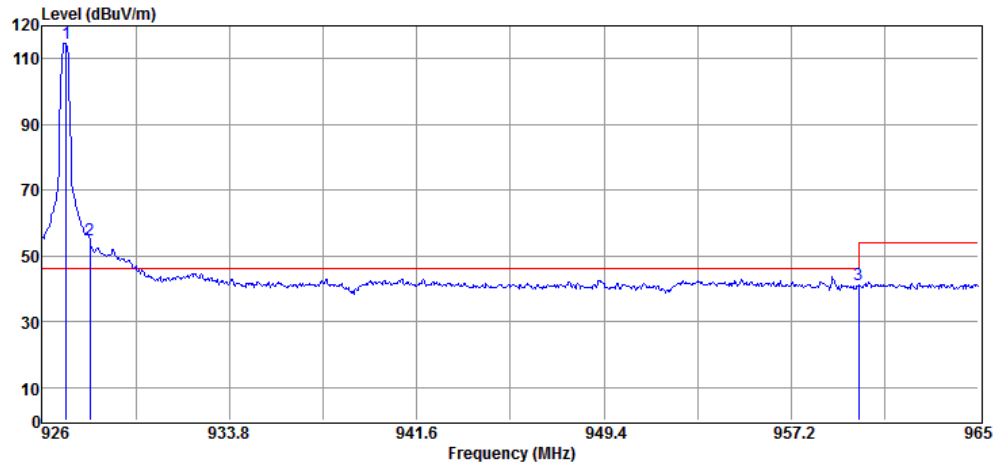


No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	870.41	42.00	0.49	42.49	46.00	-3.51	Peak	HORIZONTAL
2	902.00	59.50	1.01	60.51	90.71	-30.2	Peak	HORIZONTAL
3	902.47	109.67	1.04	110.71	F	--	Peak	HORIZONTAL

Note: "F" denotes fundamental frequency.

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-02

Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : bandedge High 040 Tested by : Barry Lee

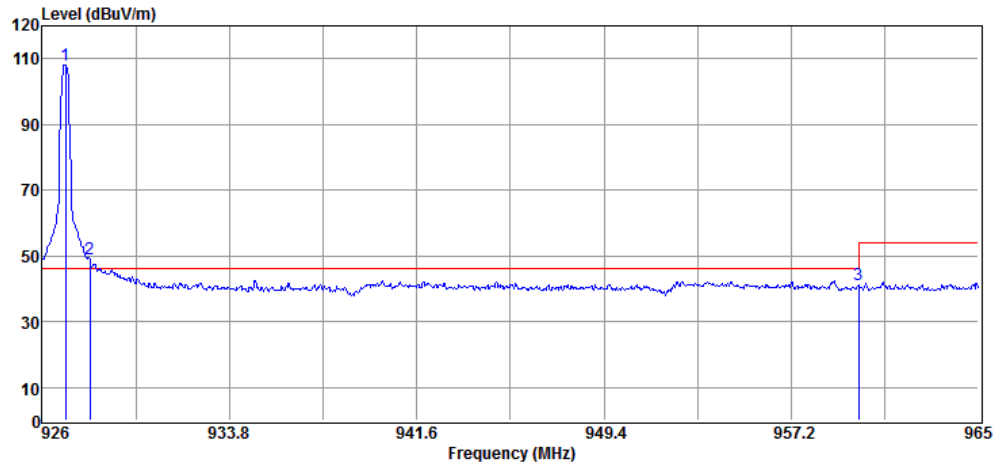


No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	927.01	112.83	1.68	114.51	F	--	Peak	VERTICAL
2	928.00	53.32	1.68	55.00	94.51	-39.51	Peak	VERTICAL
3	960.00	39.37	2.04	41.41	46.00	-4.59	Peak	VERTICAL

Note: "F" denotes fundamental frequency.

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2025-10-02

Project Number. : 25LR0142 Temp.(°C)/RH(%) : 24/58
Test Mode : bandedge High 040 Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	926.98	106.25	1.68	107.93	F	--	Peak	HORIZONTAL
2	928.00	47.20	1.68	48.88	87.93	-39.05	Peak	HORIZONTAL
3	960.00	39.23	2.04	41.27	46.00	-4.73	Peak	HORIZONTAL

Note: "F" denotes fundamental frequency.

9. 20dB Bandwidth

9.1 Standard Applicable

According to §15.247(a)(1) for frequency hopping systems operating in the 2400MHz-2483.5 MHz no limit for 20dB bandwidth.

9.2 Measurement Procedure

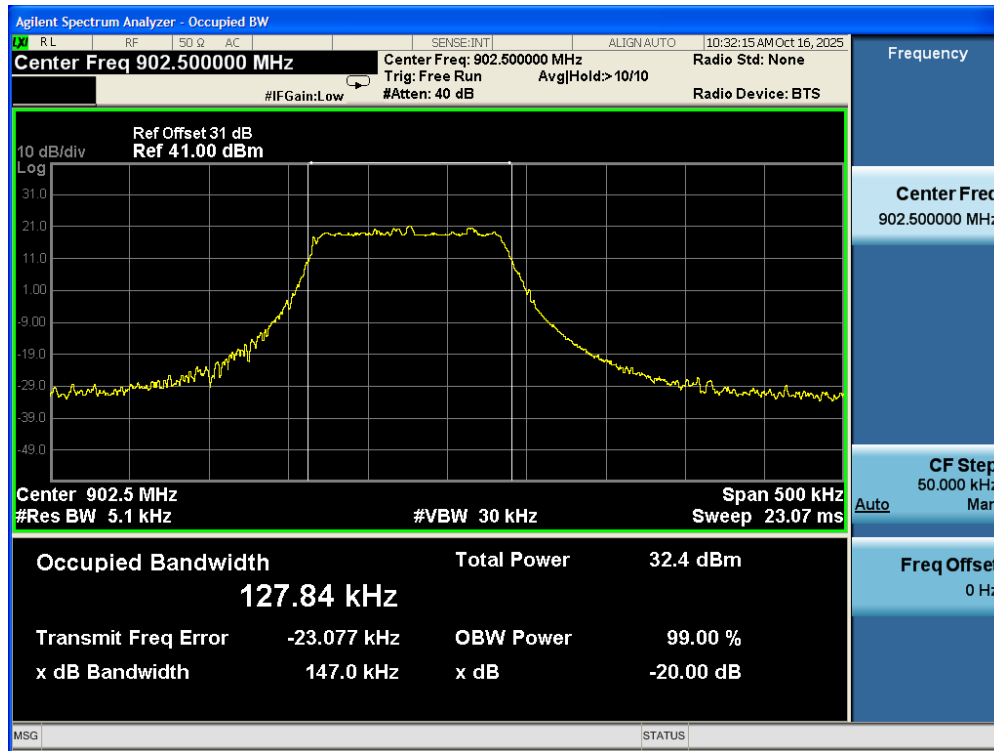
1. Place the EUT on the table and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set the spectrum analyzer as RBW= 1 % - 5% of Bandwidth., Span= 3MHz, Sweep=auto
4. Mark the peak frequency and -20dB (upper and lower) frequency and 99%.
5. Repeat above procedures until all frequency measured were complete.

9.3 Measurement Result

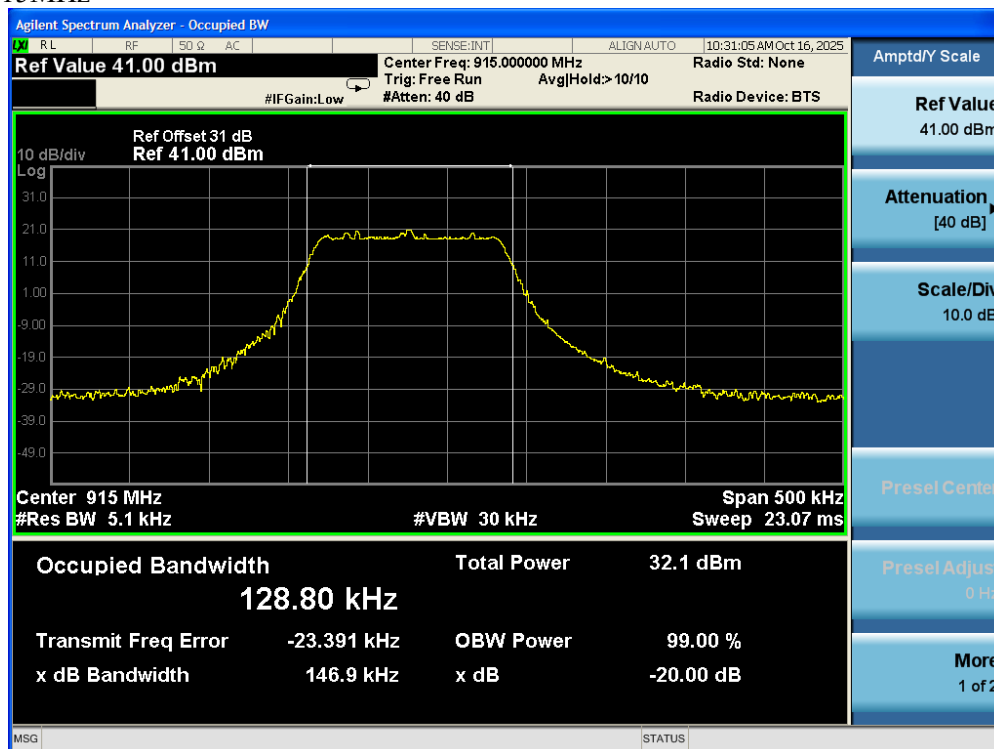
Lora Mode

CH	20dB Bandwidth (MHz)
Low	0.147
Mid	0.146
High	0.150

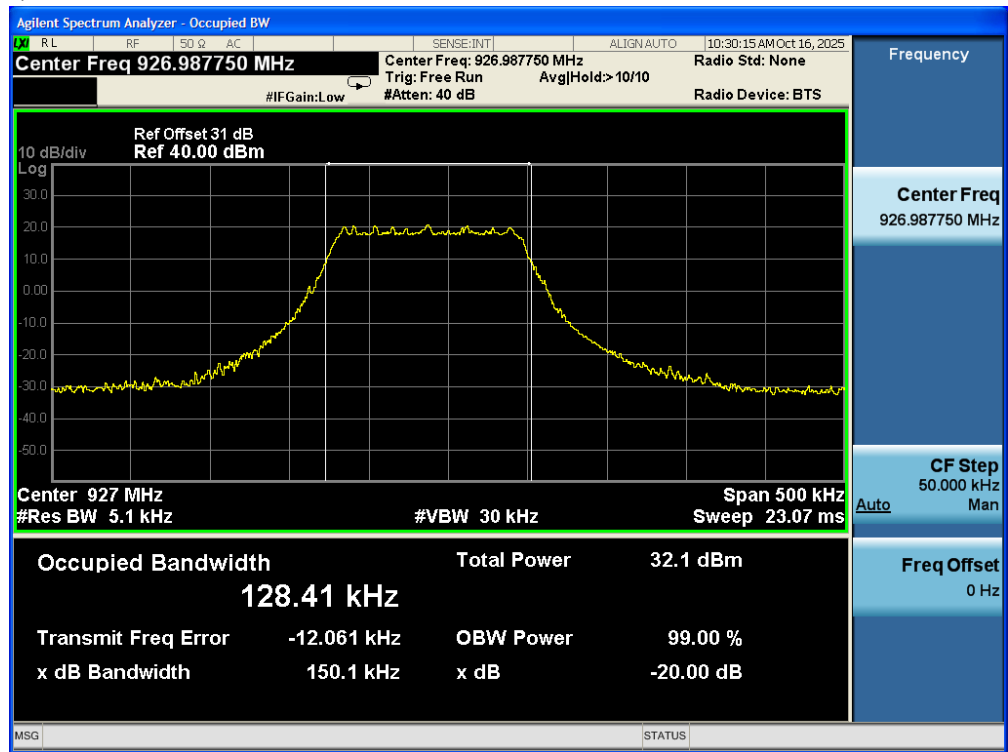
Test Data: 902.5MHz



Test Data: 915MHz



Test Data: 927MHz



10. Frequency Separation

10.1 Standard Applicable

According to FCC 15.247 (a)(1)

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

10.2 Measurement Procedure

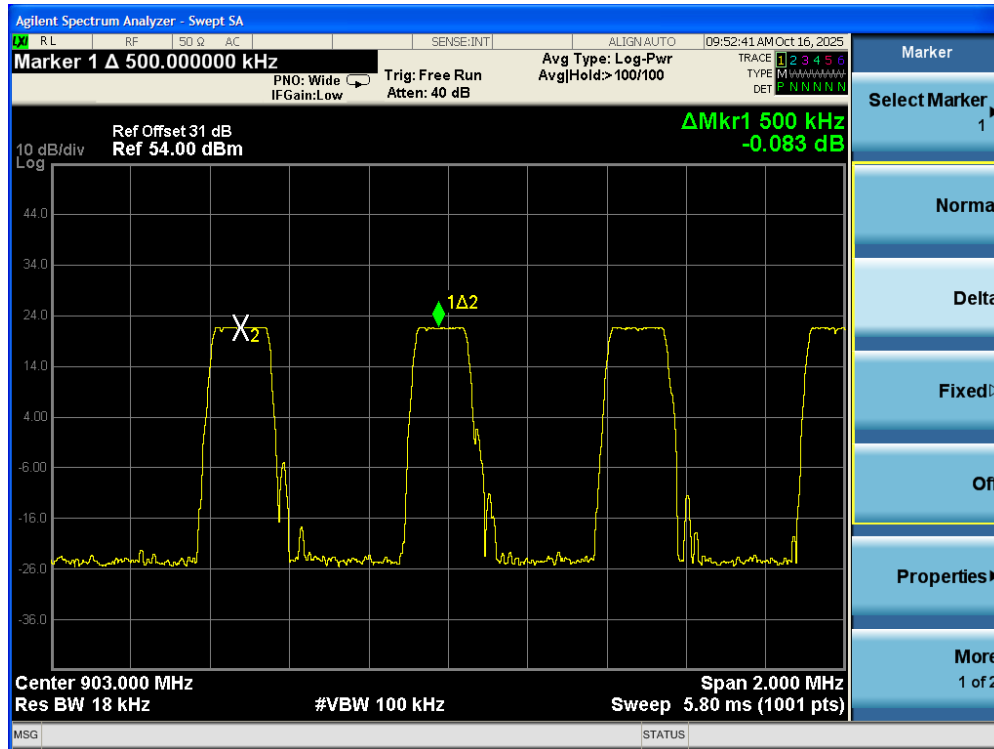
The EUT shall have its hopping function enabled. Use the following spectrum analyzer settings:

1. Span: Wide enough to capture the peaks of two adjacent channels.
2. RBW: Start with the RBW set to approximately 30% of the channel spacing; adjust as necessary to best identify the center of each individual channel.
3. $VBW \geq RBW$, Sweep: Auto.
4. Detector function: Peak.
5. Trace: Max hold.
6. Allow the trace to stabilize.
7. Use the marker-delta function to determine the separation between the peaks of the adjacent channels.

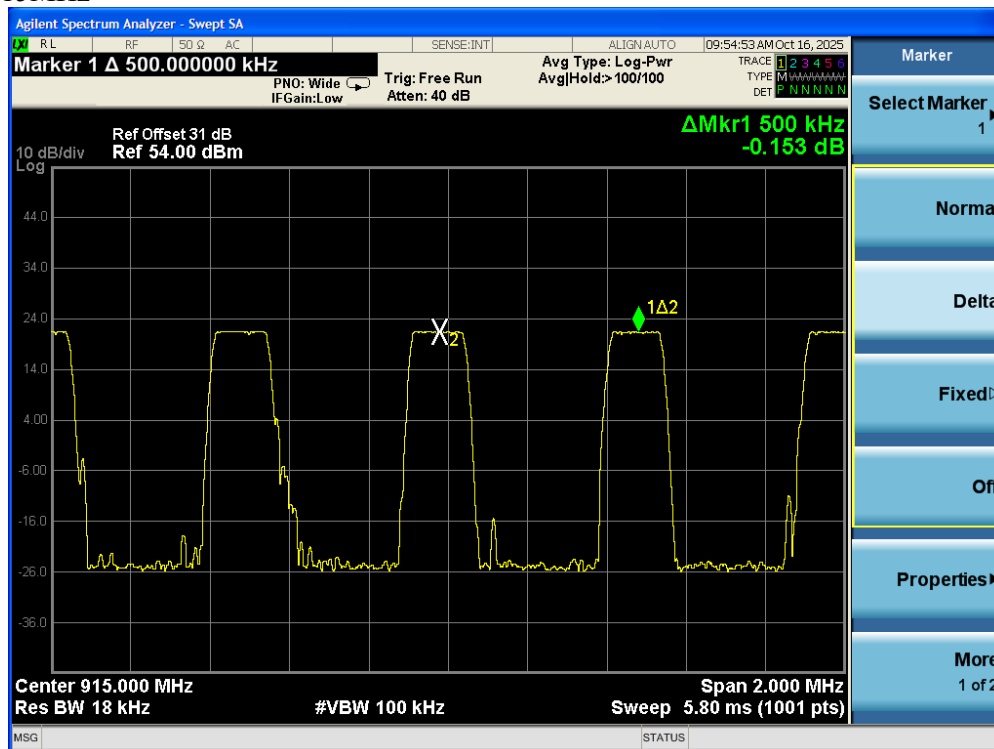
10.3 Measurement Result

Channel separation (MHz)	Limit	Result
0.5	$\geq 25\text{kHz}$ or $2/3$ of the 20dB bandwidth (whichever is greater)	PASS

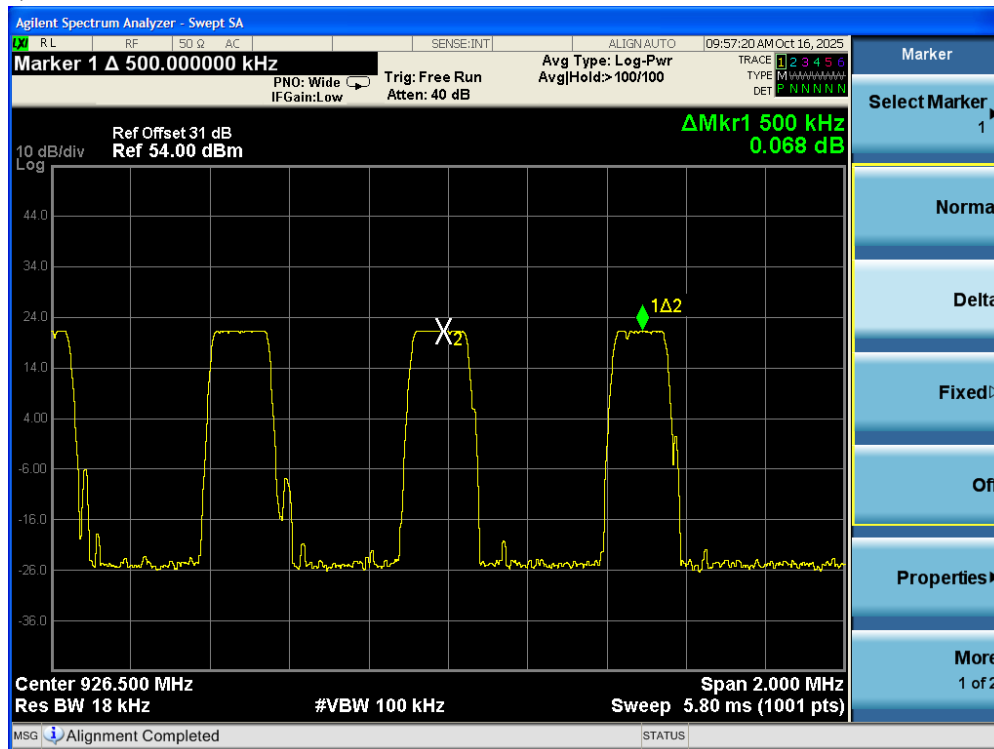
Test Data: 902.5MHz



Test Data: 915MHz



Test Data: 927MHz



11. Number of Hopping Frequency

11.1 Standard Applicable

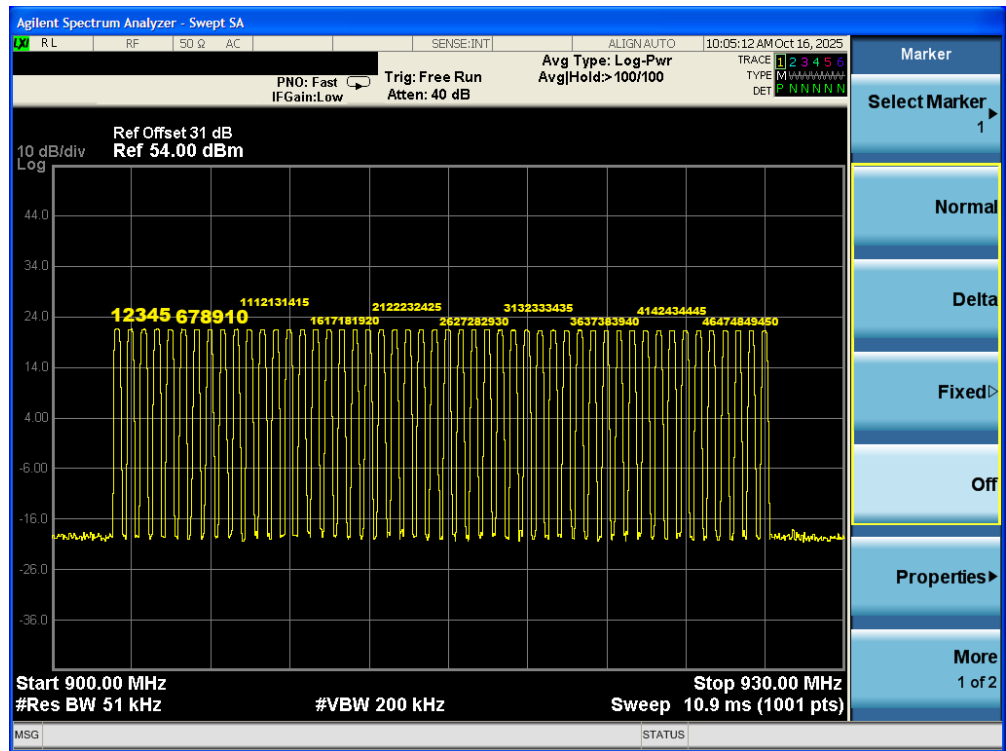
According to §15.247(a)(1)(iii), Frequency hopping systems operating in the 2400MHz-2483.5 MHz bands shall use at least 15 hopping frequencies.

11.2 Measurement Procedure

1. Set the EUT in hopping mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set spectrum analyzer Start=2400MHz, Stop = 2441.5MHz and Start=2441.5MHz, Stop = 2483.5MHz, Sweep = auto.
4. Set the spectrum analyzer as RBW=100kHz, VBW=300kHz
5. Max hold, view and count how many channels in the band.

11.3 Measurement Result

Test Data: 1



12. Time of Occupancy (Dwell Time)

12.1 Standard Applicable

According to §15.247(a)(1)(iii), Frequency hopping systems operating in the 2400MHz-2483.5 MHz band. The average time of occupancy on any frequency shall not greater than 0.4 s within period of 0.4 seconds multiplied by the number of hopping channels are employed.

12.2 Measurement Procedure

1. Set the EUT in hopping mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set center frequency of spectrum analyzer = operating frequency.
4. Set the spectrum analyzer as RBW / VBW =1MHz, Span = 0Hz, Adjust Sweep time to capture the entire dwell time per hopping channel.
5. Use the marker-delta function to determine the transmit time per hop.

12.3 Measurement Result

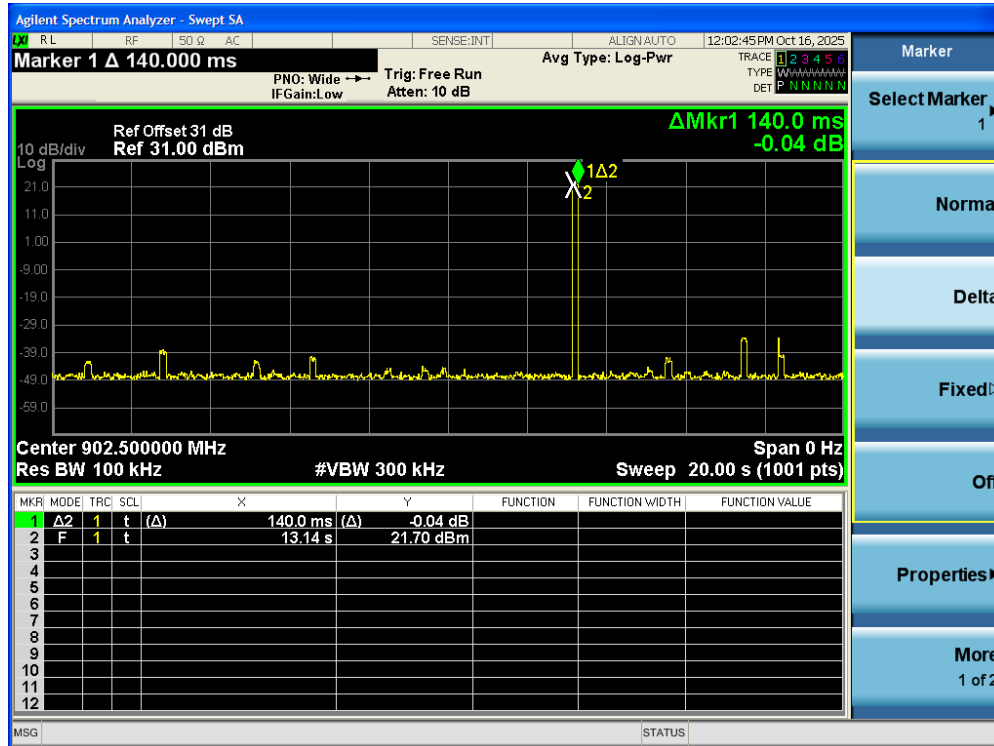
A period time = 0.4 (s) * 50 = 20 (s)

CH Low = 140(ms)

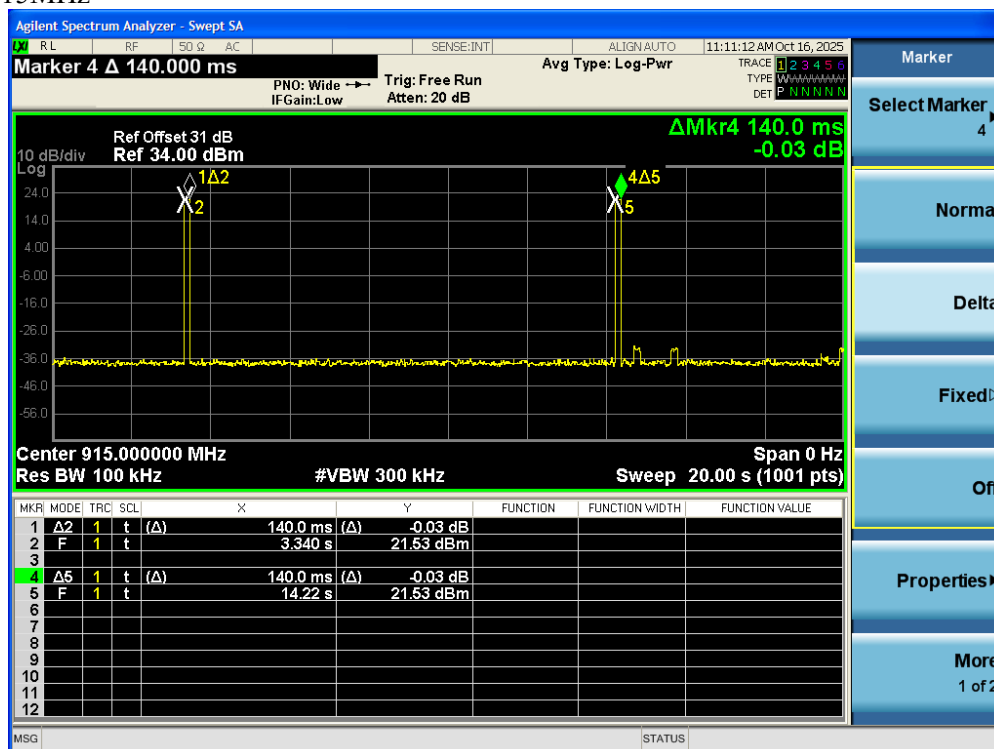
CH Mid = 280(ms)

CH High = 140(ms)

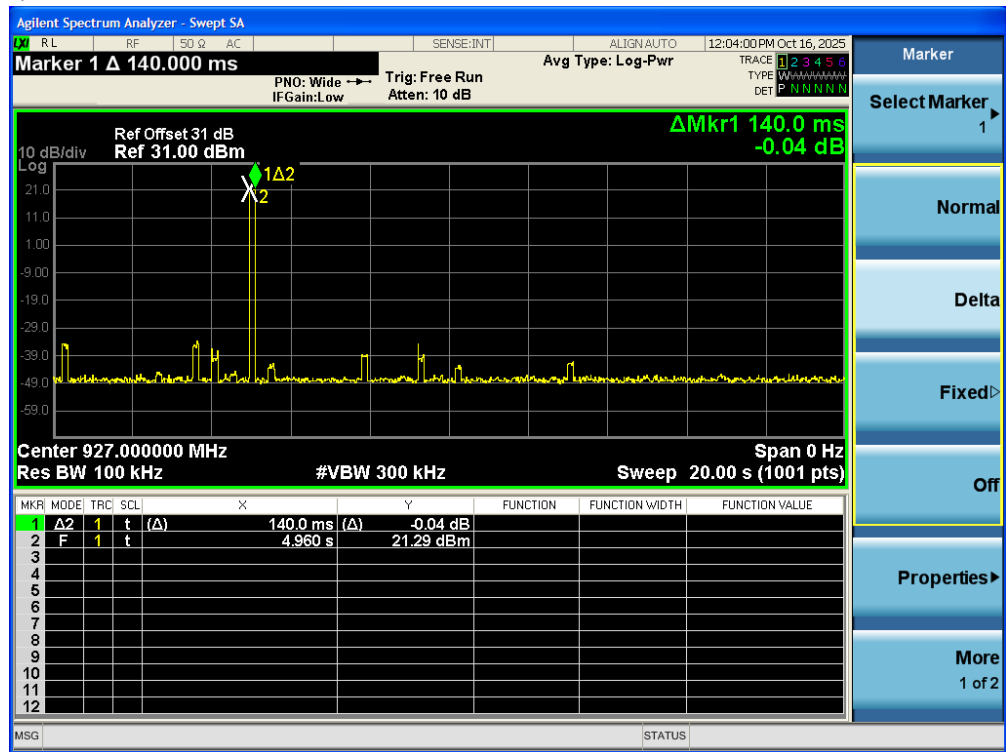
Test Data: 902.5MHz



Test Data: 915MHz



Test Data: 927MHz



13. Appendix

13.1 Appendix A: Equipment List

Location Conducted	Equipment Name	Brand	Model	S/N	Last Cal. Date	Next Cal. Date
Chamber 19	Spectrum Analyzer	R&S	FSV40	101919	07/22/2025	07/22/2026
Chamber 19	EMI Receiver	R&S	ESR3	102461	05/12/2025	05/12/2026
Chamber 19	Loop Antenna	EM	EM-6879	271	09/25/2025	09/25/2026
Chamber 19	Bilog Antenna (30MHz-1GHz)	Schwarzbeck	VULB9168 w 5dB Att.	9168-736	04/21/2025	04/21/2026
Chamber 19	Horn antenna (1GHz-18GHz)	ETS • LINDGREN	3117	00218718	10/04/2025	10/04/2026
Chamber 19	Horn antenna (18GHz-26GHz)	Com-power	AH-826	081001	11/28/2024	11/28/2025
Chamber 19	Horn antenna (26GHz-40GHz)	Com-power	AH-640	100A	03/27/2025	03/27/2026
Chamber 19	Preamplifier (9kHz-3GHz)	EM	EM330	060822	04/22/2025	04/22/2026
Chamber 19	Preamplifier (1GHz-26GHz)	HP	8449B	3008A02471	10/23/2025	10/23/2026
Chamber 19	Preamplifier (26GHz-40GHz)	MITEQ	JS4-26004000-27-5A	818471	05/06/2025	05/06/2026
Chamber 19	RF Cable (9kHz-26.5GHz)	Huber Suhner	Sucoflex 104A	MY1394/4A & 50886/4A	07/17/2025	07/17/2026
Chamber 19	RF Cable (18GHz-40GHz)	HUBER SUHNER	Sucoflex 102	27963/2&37421/2	11/22/2024	11/22/2025
Chamber 19	MXG Vector Signal Generator	Keysight	N5182B	MY53052399	12/26/2023	12/26/2025
Chamber 19	Test Software	Audix	e3 Ver:6.120203	N/A	N/A	N/A

Location Conducted	Equipment Name	Brand	Model	S/N	Last Cal. Date	Next Cal. Date
Conducted	Power Meter	Anritsu	ML2495A	1116010	09/23/2025	09/23/2026
Conducted	Power Sensor	Anritsu	MA2411B	34NKF50	09/23/2025	09/23/2026
Conducted	Temperature Chamber	KSON	THS-B4H100	2287	05/23/2025	05/23/2026
Conducted	DC Power supply	ABM	8185D	N/A	12/27/2024	12/27/2025
Conducted	AC Power supply	EXTECH	CFC105W	NA	N/A	N/A
Conducted	Spectrum analyzer	Keysight	N9010A	MY56070257	10/01/2025	10/01/2026
Conducted	Test Software	DARE	Radiation Ver:2013.1.23	NA	NA	NA
Conducted	Wideband Radio Comm. Tester	R&S	CMW500	1201.002K50108793-JG	10/26/2024	10/26/2025
Conducted	Radio Communication Test Station	Anritsu	MT8000A	6272539604	08/29/2025	08/29/2026
Conducted	MT8000A Test Software	Anritsu	MX800000A Application Launcher V10.10.34.0	NA	NA	NA
Conducted	BT Simulator	Agilent	N4010A	MY48100200	NA	NA
Conducted	MXG Vector Signal Generator	Keysight	N5182B	MY53052399	12/26/2023	12/26/2025
Conducted (TS8997)	Wideband Radio Comm. Tester	R&S	CMW500	168811	09/15/2025	09/15/2026
Conducted (TS8997)	UP/DOWN converter	R&S	CMW-Z800A	100566	09/15/2025	09/15/2026
Conducted (TS8997)	Signal Generator	R&S	SMB100A	183701	09/09/2025	09/09/2026
Conducted (TS8997)	Vector Signal Generator	R&S	SMM100A	101908	09/09/2025	09/09/2026
Conducted (TS8997)	Signal analyzer 40GHz	R&S	FSV40	101884	09/12/2025	09/12/2026
Conducted (TS8997)	OSP150 extension unit CAM-BUS	R&S	OSP150	101107	09/11/2025	09/11/2026
Conducted (TS8997)	Test Software	R&S	EMC32 Ver: 12.00.00	NA	NA	NA

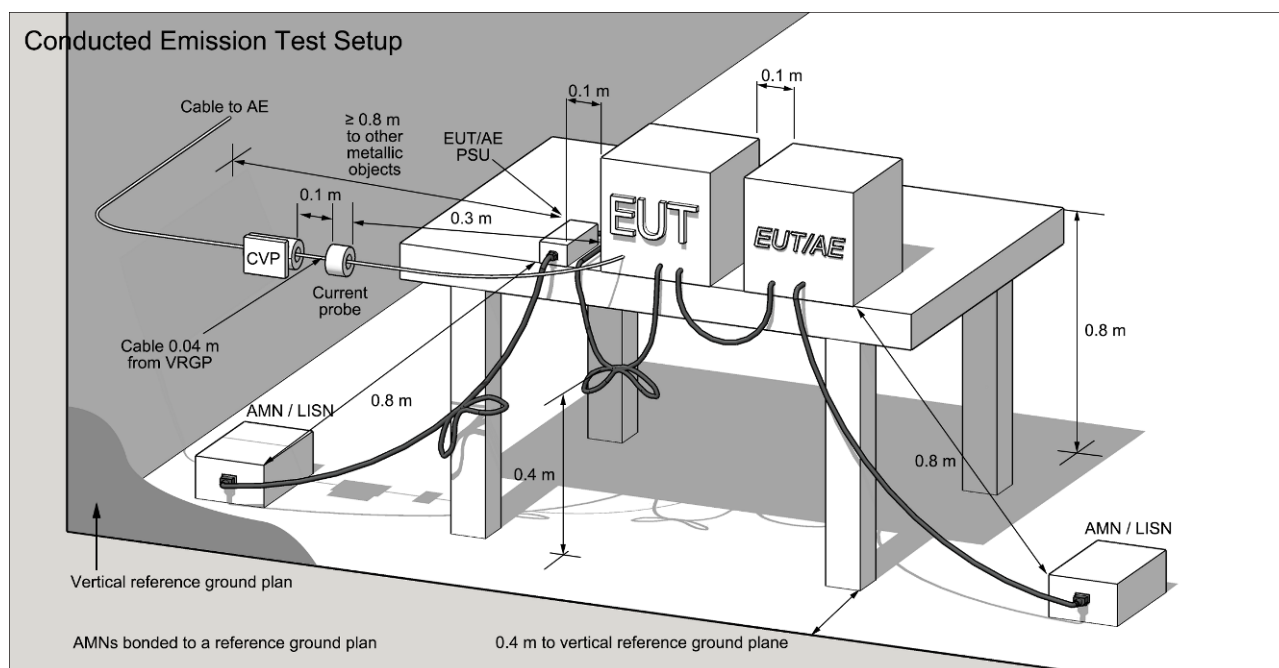
13.2 Appendix B: Uncertainty of Measurement

ISO/IEC 17025 requires that an estimate of measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)).

Parameter	Uncertainty (k=2)
Conducted Emission (AC power line)	± 1.6 dB
Spurious emissions, radiated	± 4.8 dB
RF power, conducted	± 2.2 dB
Power Density	± 2.3 dB
RF Frequency	± 1.5 %
DC Voltage	± 2.2 %

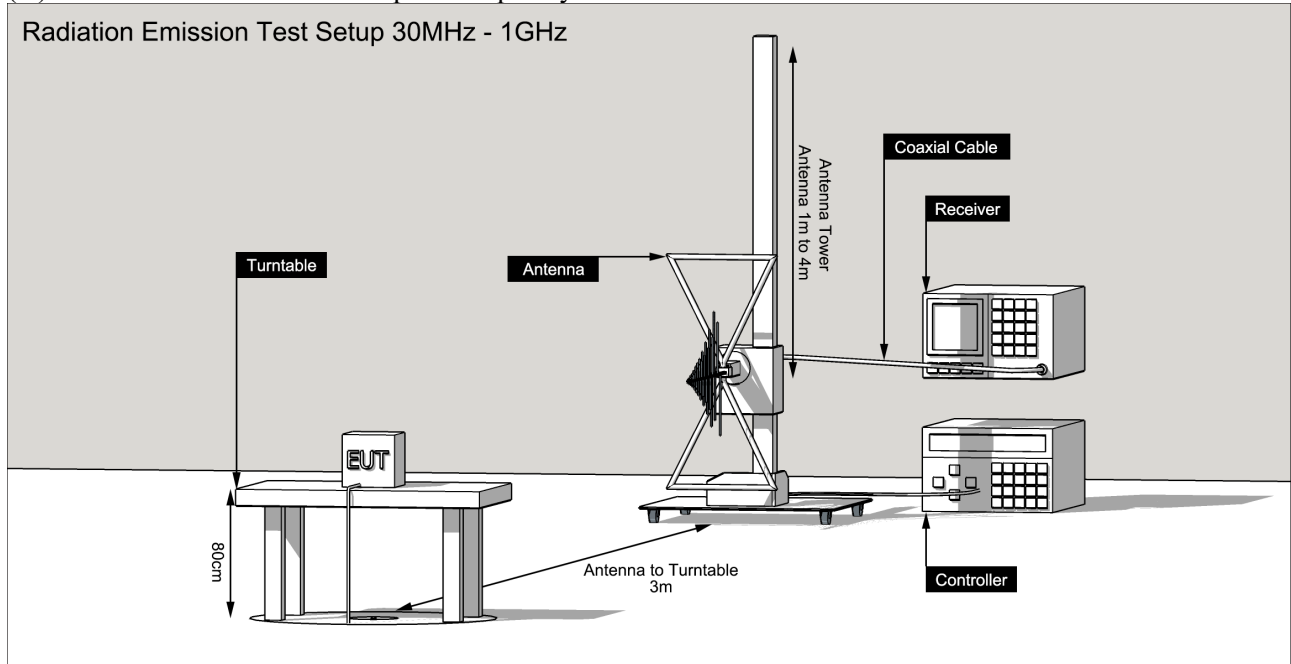
AC Line Conduced Emission Test Setup

1. The conducted emission tests were performed in the test site, using the setup in accordance with the ANSI C63.10-2020.
2. The AC/DC Power adaptor of EUT was plug-in LISN. The EUT was placed flushed with the rear of the table.
3. The LISN was connected with 120Vac/60Hz power source.

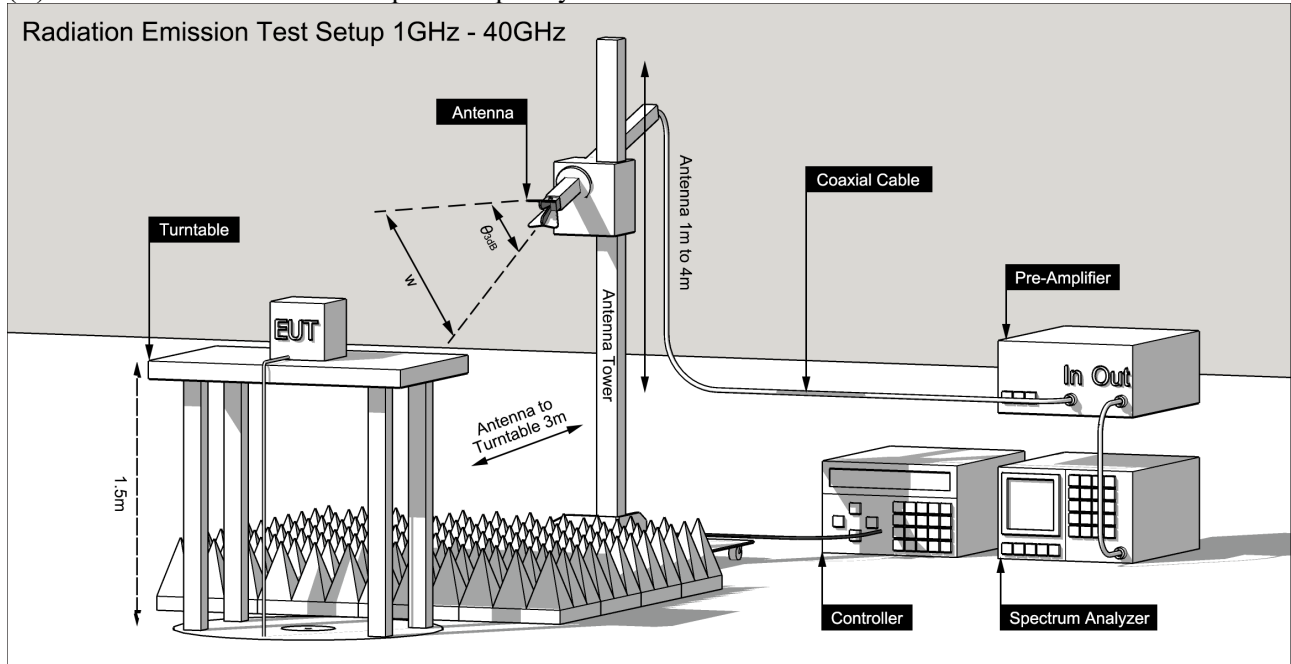


Radiated Spurious Emission Test & 100kHz Bandwidth of Band Edges Measurement Test Setup

(A) Radiated Emission Test Setup for frequency below 1000MHz



(B) Radiated Emission Test Setup for frequency above 1 GHz



RF Conducted Measurement Test Setup

